



Indiana
Department
of
Health

ASTHMA IN INDIANA

ABBIGAYLE BROOKS

CHRONIC RESPIRATORY
DISEASE DATA ANALYST

September 2022

OUR MISSION:

To promote, protect, and improve the health and safety of all Hoosiers.

OUR VISION:

Every Hoosier reaches optimal health regardless of where they live, learn, work, or play.



Mission and Purpose

The Indiana Department of Health's Chronic Respiratory Disease Section's mission is to reduce the burden of asthma on Hoosiers.

The purpose of this slide set is to provide an informational guide regarding asthma in the state of Indiana. It is intended to be a data resource for those working in asthma or for those who may want more insight into the chronic respiratory disease that is asthma.

The data presented is the most recent information for each data source.

Helpful Definitions for Understanding Asthma Data

- **Age-Adjusted Rate**

- A weighted average of the crude rates, where the crude rates are calculated for different demographic groups and weighted based on the corresponding demographic groups of a standard population set¹.

- **Asthma Control**

- Patients with an asthma diagnosis range of measurements with the goal of having well-controlled² asthma. Using asthma control tools, control range can be well-controlled or poorly-controlled.

- **Asthma Prevalence**

- An annual number of cases of Asthma that are present in the population
- An estimated annual number of cases of Asthma that are present in the population weighted using a standard population set

- **Asthma Mortality**

- An annual number of deaths with the primary cause of death being listed as asthma in the population
- An age-adjusted rate of the annual number of deaths with the primary cause of death being listed as asthma per 10,000 people



¹ Klein RJ, Schoenborn CA. [Age adjustment using the 2000 projected U.S. population](#). Healthy People Statistical Notes, no. 20. Hyattsville, Maryland: National Center for Health Statistics. January 2001.

² Centers for Disease Control and Prevention. (2016, July 14). [Asthma control](#). Centers for Disease Control and Prevention. Retrieved November 23, 2021.

Helpful Definitions for Understanding Asthma Data

- **Asthma-Specific Emergency Department (ED) Visits**
 - Annual number of emergency department visits with the primary diagnosis of asthma
 - Age-adjusted rate of emergency department visits with a primary diagnosis of asthma per 10,000 people
- **Asthma-Specific Inpatient Hospitalizations**
 - Annual number of inpatient hospitalizations with the primary diagnosis of asthma
 - Age-adjusted rate of inpatient hospitalizations with a primary diagnosis of asthma per 10,000 people
- **Health Disparities**
 - Preventable health differences that adversely affect disadvantaged populations in the burden of disease, injury, violence, or in opportunities to achieve optimal health experienced by socially disadvantaged population groups and communities³
- **Missed Work or Missed School Days**
 - Missing one or more days of work or school due to asthma in the span of 12 months

Data Sources

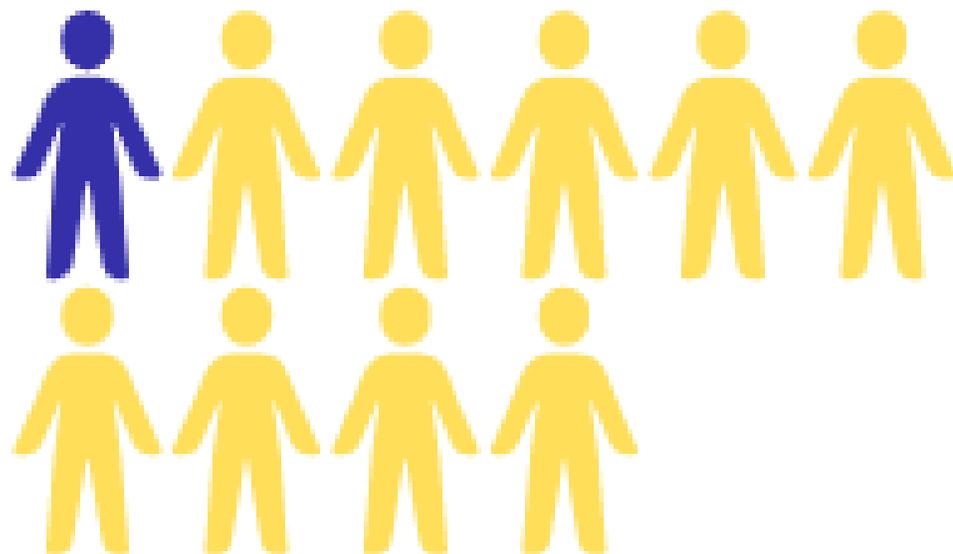
- [Centers for Disease Control and Prevention BRFSS \(CDC\)](#)
- [Indiana Behavioral Risk Factor Surveillance System \(BRFSS\)](#)
- [Indiana BRFSS Asthma Call-Back Survey \(ACBS\)](#)
- [Indiana Department of Health Hospital Discharge Data](#)
- [Indiana Department of Health Vital Records Death Reports](#)

The importance of using age-adjusted rates in asthma data¹

Adjusted rates allow for comparisons to be made between groups with differing age, race, and ethnic distributions. Rates are calculated using the U.S. 2000 Standard Population¹ to remove the impact seen in different subgroups and communities of the population.

Background





Approximately one in 10 (9.7%) of Indiana adults (18 years and older) are diagnosed with asthma.⁴

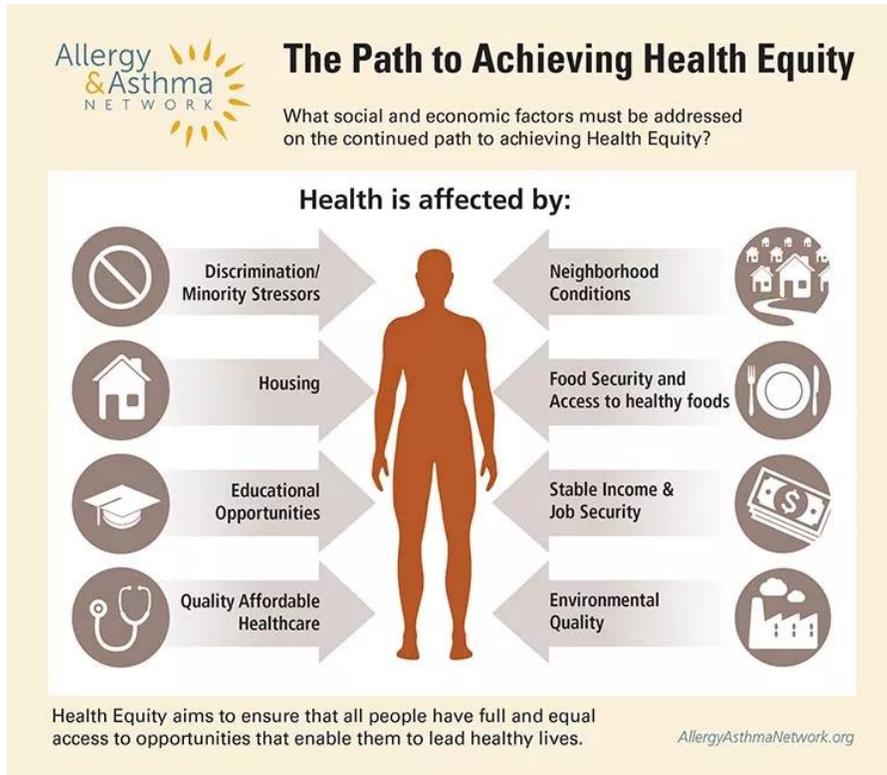
What is Asthma?

- Asthma is a long-term chronic health condition and major noncommunicable disease (NCD) that causes inflammation and narrowing of the airways in the lungs causing asthma symptoms.⁵
- Asthma symptoms can include any combination of coughing, wheezing, shortness of breath, and chest tightness.⁵
- Triggers for asthma symptoms can vary from person to person but can include:
 - Tobacco smoke or environmental smoke fumes, dust and dust mites, changes in weather or outdoor air pollution, pollen, animal dander, mold, cleaning and disinfection products, or strong soaps/perfumes.⁶

Asthma Disparities



Health Disparities in Asthma



Health Disparities

- Preventable health differences that adversely affect disadvantaged populations in the burden of disease, injury, violence, or in opportunities to achieve optimal health experienced by socially disadvantaged population groups and communities³.
- Ongoing care, maintenance, and medical compliance are vital to maintaining well-controlled asthma.
- Financial situations, transportation to healthcare opportunities, living in urban environments, and cultural and language barriers all play major roles in a person with asthma's asthma control level.⁷

Health Literacy in Asthma

Health Literacy

- “The degree to which an individual has the capacity to obtain, communicate, process, and understand basic health information and services to make appropriate health decisions.”⁸

Health Literacy plays a major role in patient care and asthma self-management. Individuals who live with health disparities are more likely to have lower levels of health literacy.⁷

patients with low **HEALTH LITERACY...**

- Are more likely to visit an **EMERGENCY ROOM**
- Have more **HOSPITAL STAYS**
- Are less likely to follow **TREATMENT PLANS**
- Have higher **MORTALITY RATES**

www.cdc.gov/phpr

⁷ Asthma and Allergy Foundation of America, (2020). [\[Asthma Disparities in America: A Roadmap to Reducing Burden on Racial and Ethnic Minorities\]](#).

⁸ Health Resources and Services Administration HRSA. (2019, August 13). [Health literacy](#). Official web site of the U.S. Health Resources & Services Administration. Retrieved November 23, 2021.

Indiana Asthma Health Disparities



The burden of asthma falls disproportionately on Black, Hispanic, and Native people.



These disparities have been identified in asthma prevalence, mortality, and health care utilization along racial and ethnic lines.⁷



Indiana Asthma Health Disparities



In Indiana, multiracial, Hispanic, and Black Hoosiers have a higher prevalence of current asthma rates.

When you factor in a resident's sex, women have higher rates than men.



Black people have a higher number of asthma-related emergency department (ED) visits than their white counterparts while also seeing a greater chance of mortality.

Indiana Asthma Health Disparities

While we see high prevalence rates in the native community, there is limited asthma-related data on the population. National datasets do not consistently contain reliable asthma data for the group. Data collected shows they are more than twice as likely to experience asthma symptoms everyday.⁷



Income disparities are also seen as 40.9% of all current asthma cases in Indiana are seen in residents who make less than \$35,000 a year.⁴

⁴ CDC and Indiana Department of Health Data Analysis Team [IDOH DAT]. (2021). *Behavioral Risk Factor Surveillance System Prevalence Data, 2020*.

⁷ Asthma and Allergy Foundation of America, (2020). [[Asthma Disparities in America: A Roadmap to Reducing Burden on Racial and Ethnic Minorities](#)].

Asthma Prevalence



Adult Asthma⁴

- Approximately 647,729 Indiana adults are currently diagnosed with asthma.
- Adult females (13.8%) in Indiana are more likely than adult males (6.7%) to have asthma.
- Non-Hispanic African Americans (15.7%) and Multiracial Adults (12.9%) have a higher prevalence rate than other races in the state.
- An asthma diagnosis is more likely within a household that annually makes less than \$15,000 in comparison to households with annual incomes greater than \$15,000.

Prevalence of asthma among adults [18+], Indiana and United States, 2020

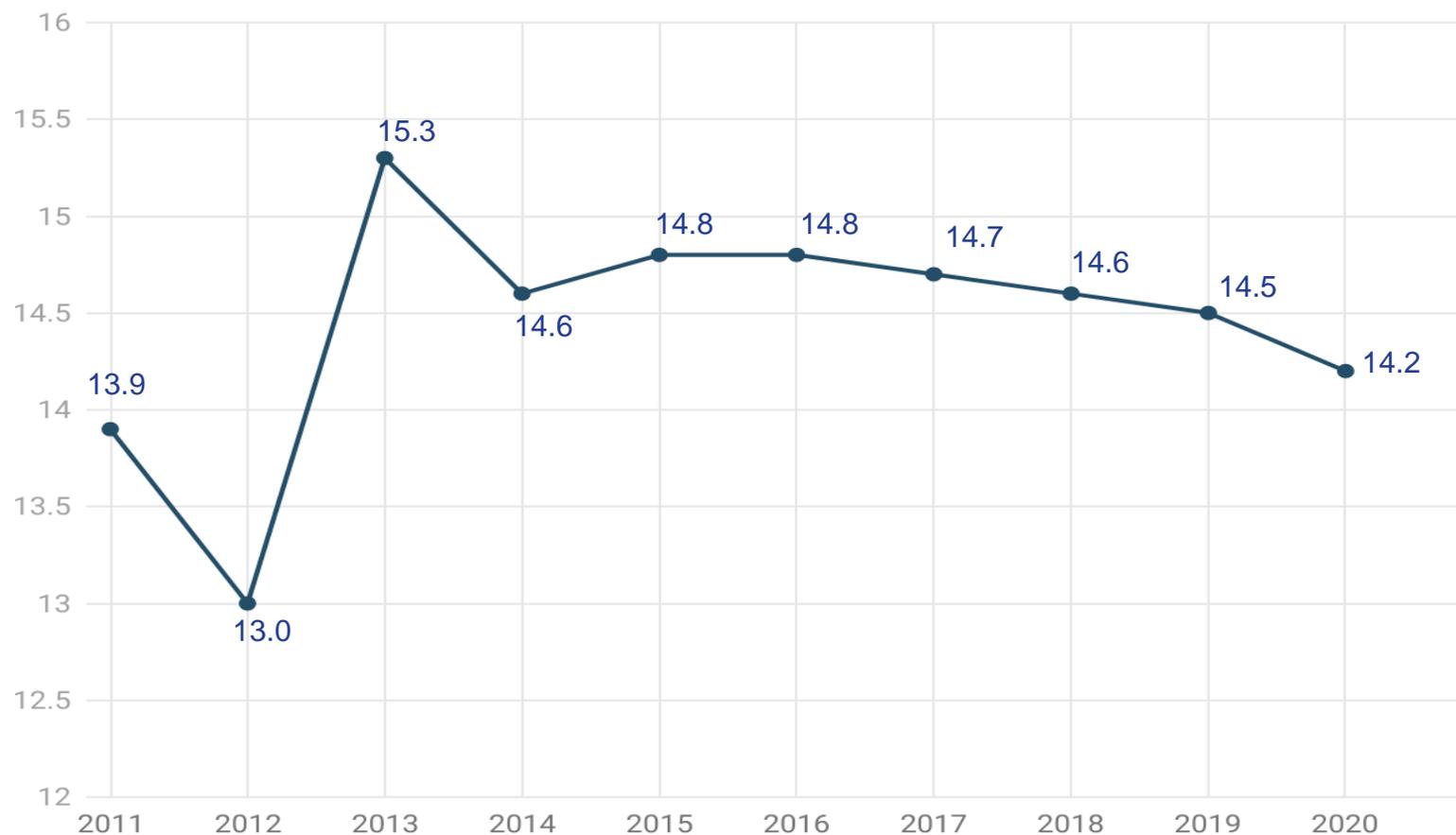


While asthma prevalence in Indiana has stayed steady, a slight decrease in lifetime asthma cases can be seen from 2019. (2019, 14.9%)

Lifetime Asthma from BRFSS 2020 response of 'Yes' to the question, "Has a doctor, nurse, or health professional told you that you ever had asthma? (Crude Prevalence)
Current Asthma from BRFSS 2020 response of 'Yes' to the question, "Has a doctor, nurse, or health professional told you that you currently have asthma? (Crude Prevalence)

Source: 4 CDC and Indiana Department of Health Data Analysis Team [IDOH DAT]. (2021). Behavioral Risk Factor Surveillance System Prevalence Data, 2020.
Visuals Created Using: [DataWrapper](#)

Prevalence of lifetime asthma among adults [18+], Indiana, 2011-2020

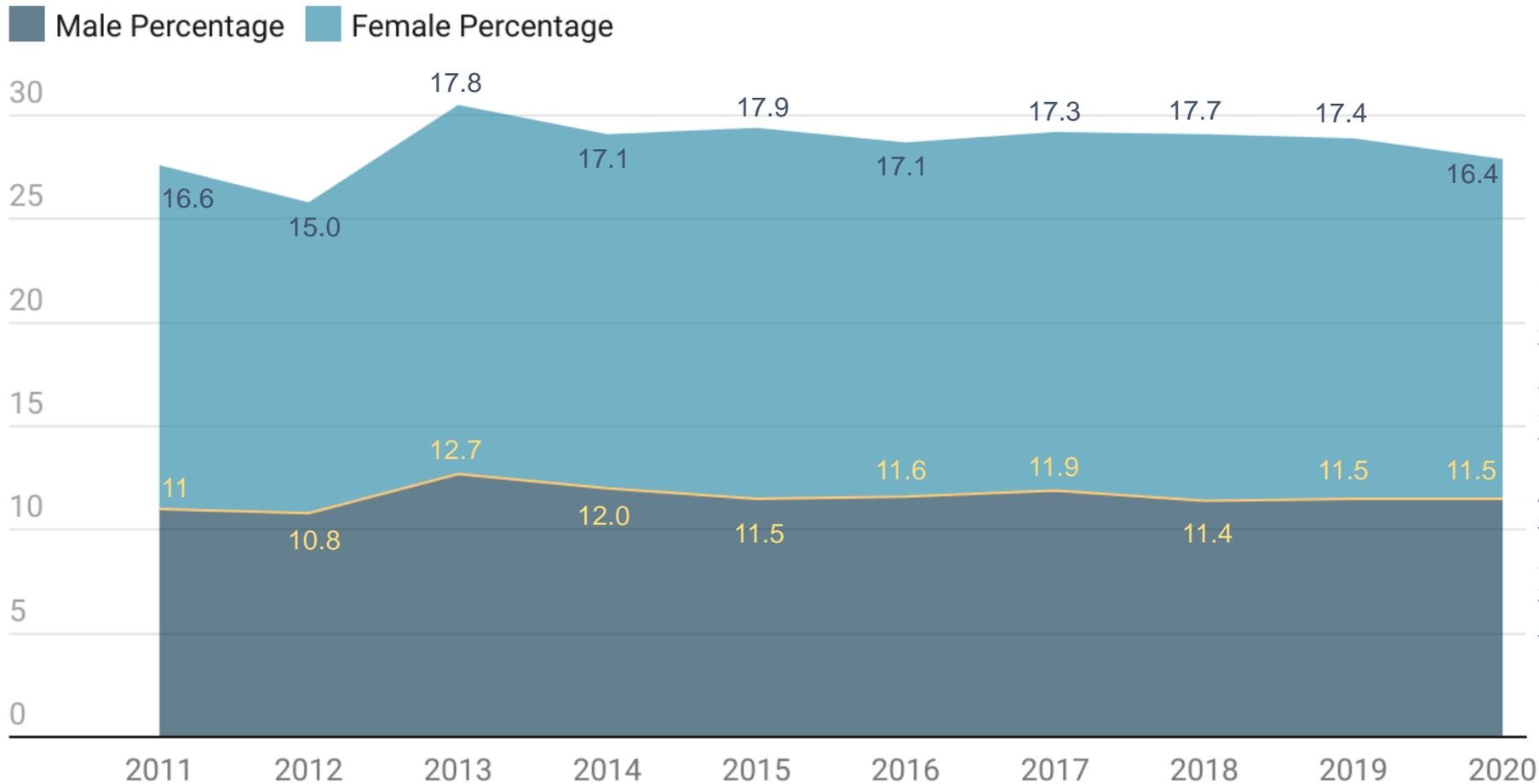


Sources:

Lifetime Asthma from BRFSS 2011 to 2020 response of 'Yes' to the question, "Has a doctor, nurse, or health professional told you that you ever had asthma? (Weighted Age-Adjusted Prevalence)

4 CDC and Indiana Department of Health Data Analysis Team (IDOH DAT). (2021). *Behavioral Risk Factor Surveillance System Prevalence Data, 2020*. Visuals Created Using: [DataWrapper](#)

Prevalence of lifetime asthma among adults [18+] by gender, Indiana, 2011-2020

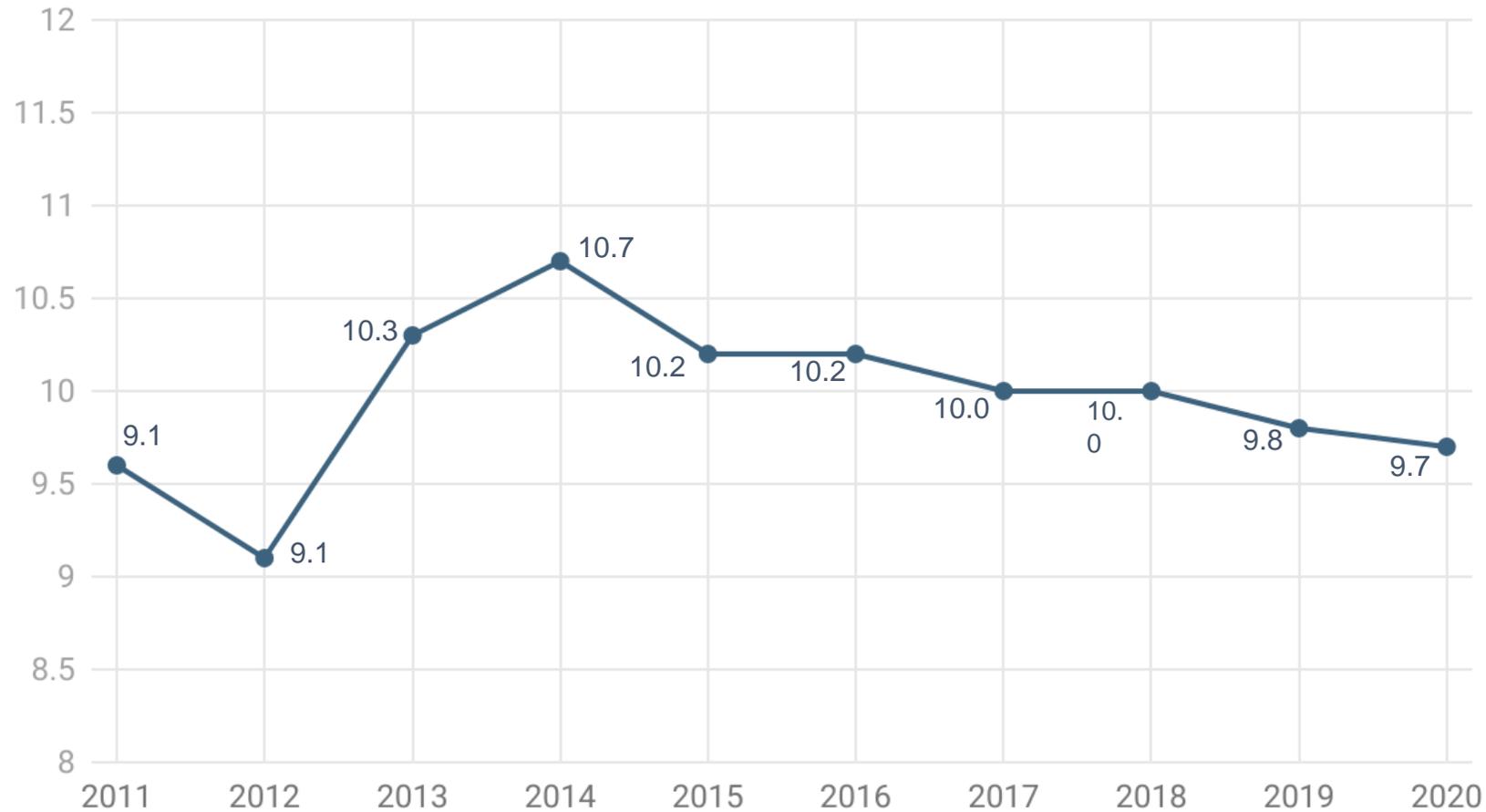


Sources:

Lifetime Asthma from BRFSS 2011 to 2020 response of 'Yes' to the question, "Has a doctor, nurse, or health professional told you that you ever had asthma? (Weighted Age-Adjusted Prevalence)

4 CDC and Indiana Department of Health Data Analysis Team [IDOH DAT]. (2021). *Behavioral Risk Factor Surveillance System Prevalence Data, 2020*. Visuals Created Using: [DataWrapper](#)

Prevalence of current asthma among adults [18+], Indiana, 2011-2020

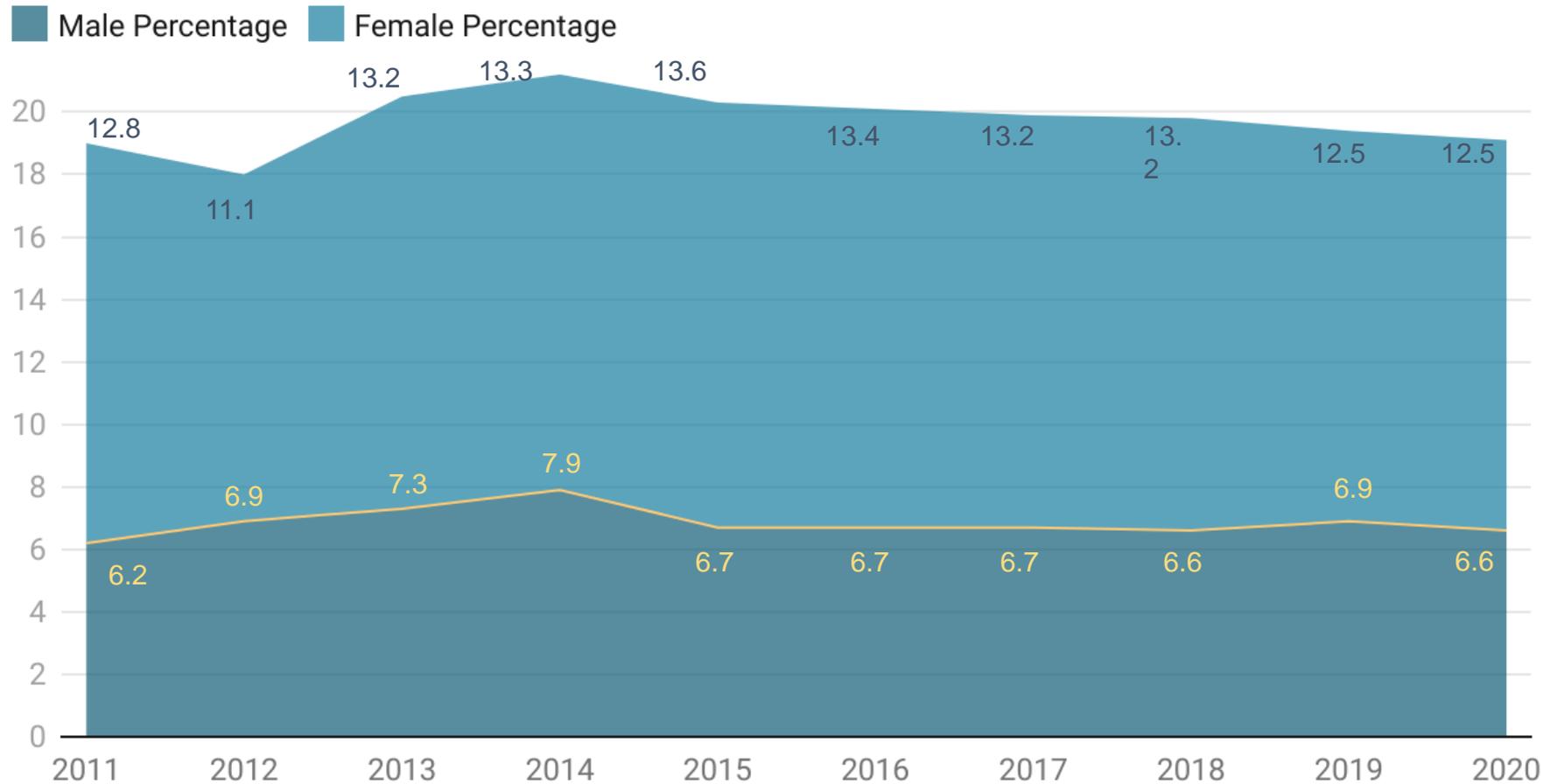


Sources:

Current Asthma from BRFSS 2011 to 2020 response of 'Yes' to the question, "Has a doctor, nurse, or health professional told you that you currently have asthma? (Weighted Age-Adjusted Prevalence)

4 CDC and Indiana Department of Health Data Analysis Team [IDOH DAT]. (2021). *Behavioral Risk Factor Surveillance System Prevalence Data, 2020*. Visuals Created Using: [DataWrapper](#)

Prevalence of current asthma among adults [18+] by gender, Indiana, 2011-2020

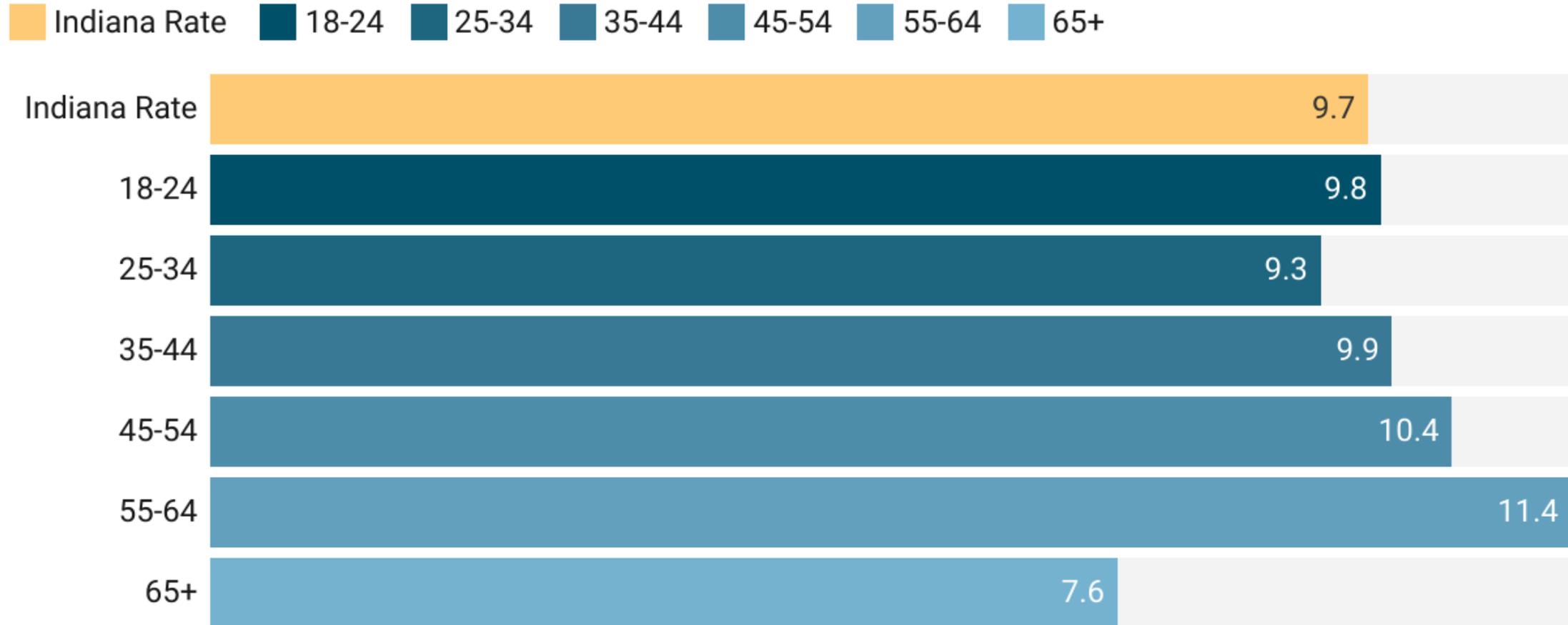


Source:

Current Asthma from BRFSS 2011 to 2020 response of 'Yes' to the question, "Has a doctor, nurse, or health professional told you that you currently have asthma? (Weighted Age-Adjusted Prevalence – By Gender)

4 CDC and Indiana Department of Health Data Analysis Team [IDOH DAT]. (2021). Behavioral Risk Factor Surveillance System Prevalence Data, 2020. Visuals Created Using: DataWrapper

Prevalence of current asthma among adults [18+] by age groups, Indiana, 2020



Sources:
Current Asthma from BRFSS 2020 response of 'Yes' to the question, "Has a doctor, nurse, or health professional told you that you currently have asthma? (Weighted Age-Adjusted Prevalence – By Age Groups)"

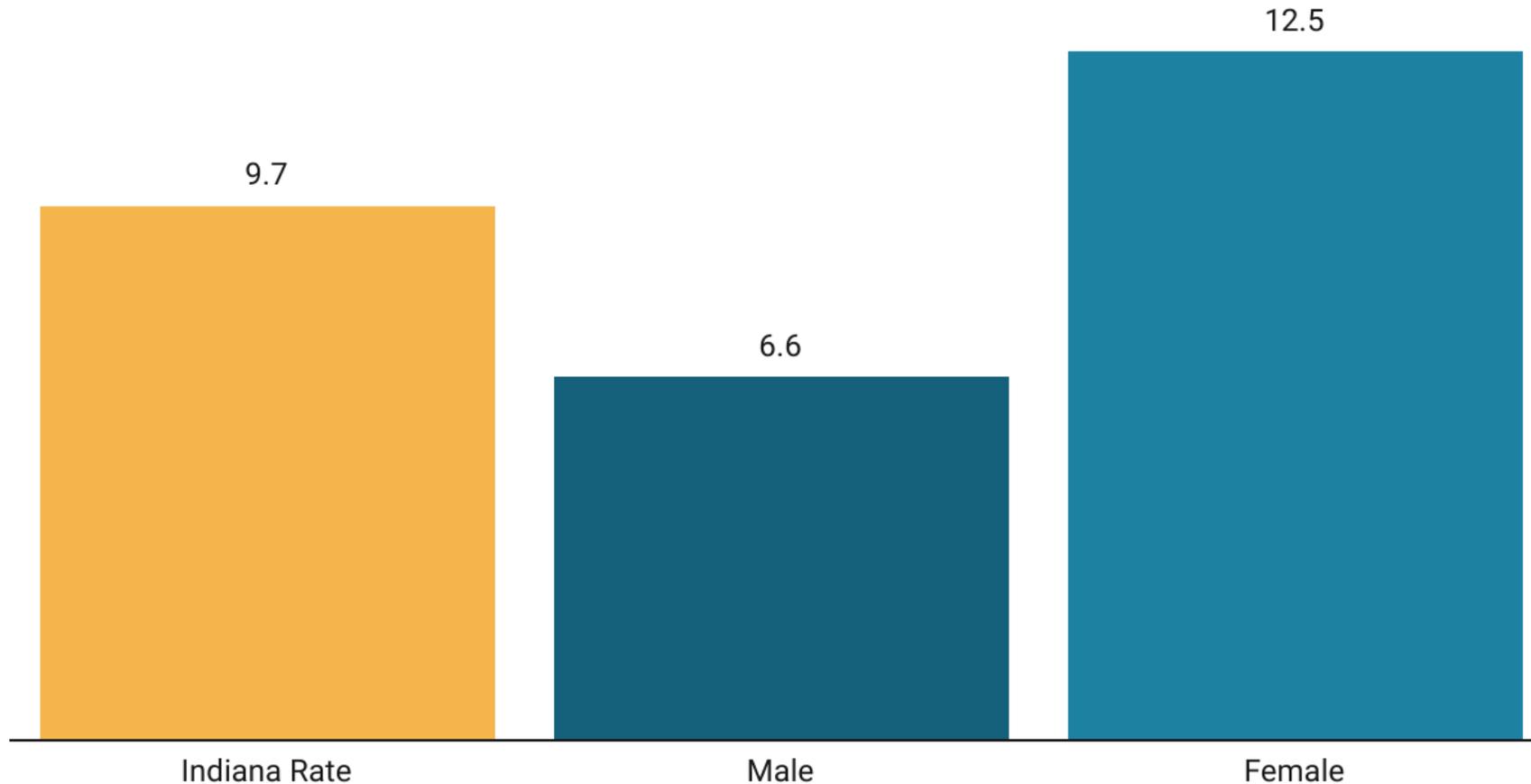
4 [CDC](#) and [Indiana Department of Health Data Analysis Team](#) [IDOH DAT]. (2021). *Behavioral Risk Factor Surveillance System Prevalence Data, 2020*.
Visuals Created Using: [DataWrapper](#)

Prevalence of current asthma among adults [18+] by gender, Indiana, 2020

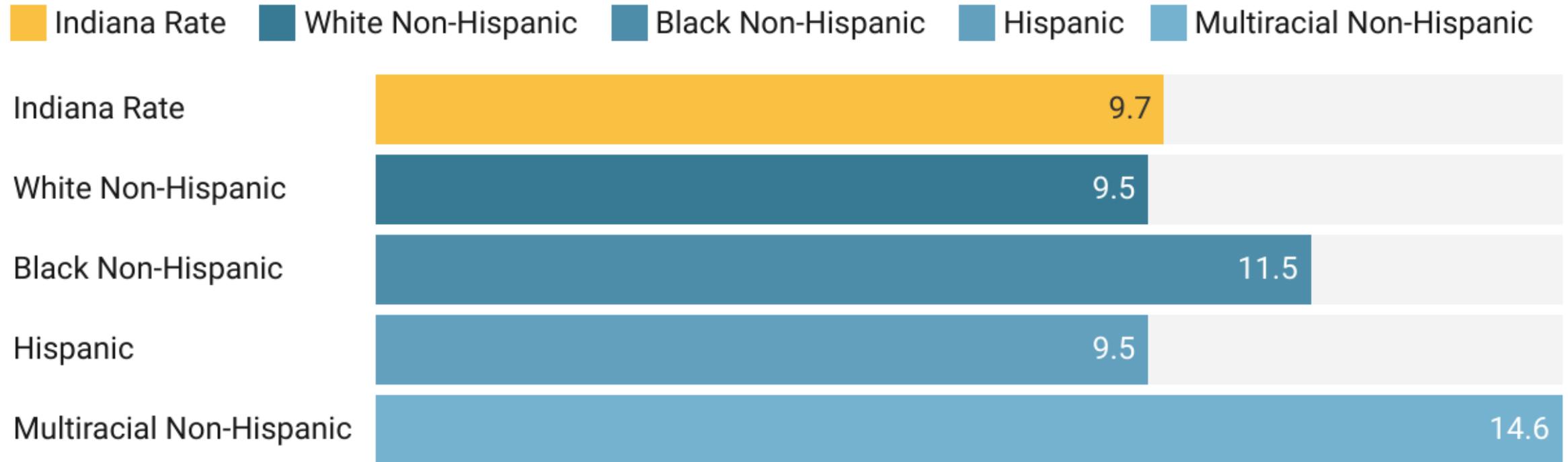
Source:

Current Asthma from BRFSS 2020 response of 'Yes' to the question, "Has a doctor, nurse, or health professional told you that you currently have asthma? (Weighted Age-Adjusted Prevalence – By Gender)

4 CDC and Indiana Department of Health Data Analysis Team [IDOH DAT]. (2021). Behavioral Risk Factor Surveillance System Prevalence Data, 2020. Visuals Created Using: DataWrapper



Prevalence of current asthma among adults [18+] by race and ethnicity, Indiana, 2020

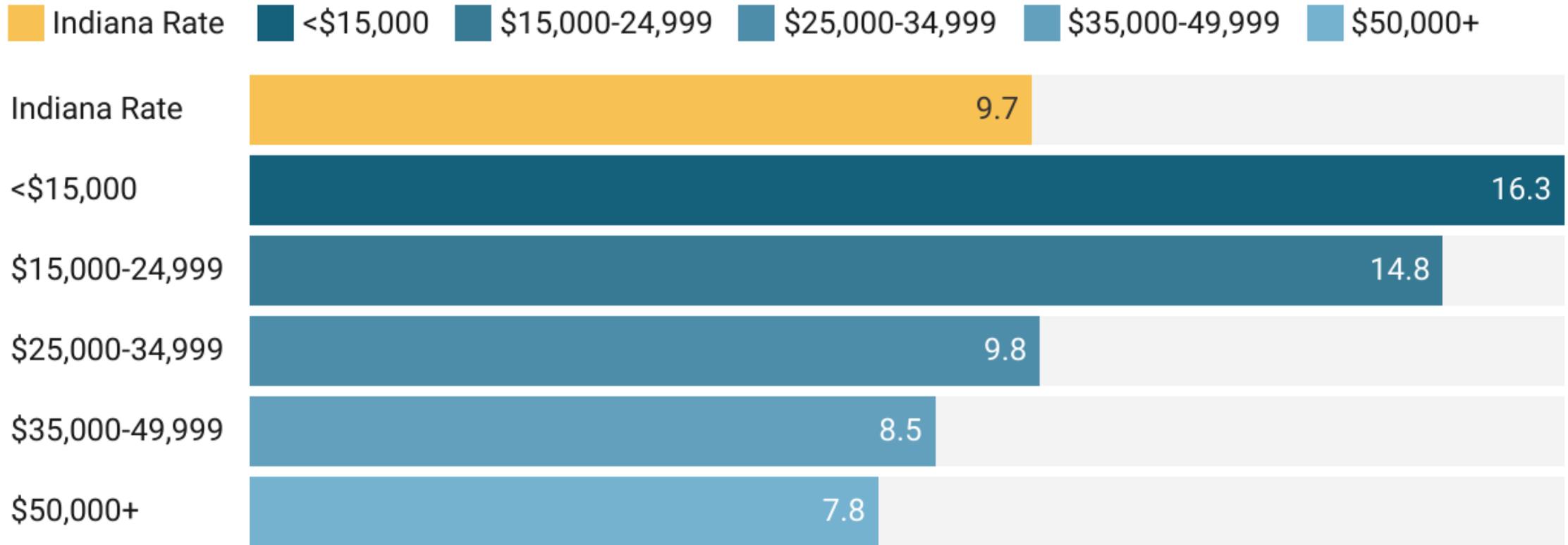


Current Asthma from BRFSS 2020 response of 'Yes' to the question, "Has a doctor, nurse, or health professional told you that you currently have asthma? (Weighted Age-Adjusted Prevalence – By Race and Ethnicity)



⁴ CDC and Indiana Department of Health Data Analysis Team [IDOH DAT]. (2021). Behavioral Risk Factor Surveillance System Prevalence Data, 2020. Visuals Created Using: [DataWrapper](#)

Prevalence of current asthma among adults [18+] by household income, Indiana, 2020



Sources: Current Asthma from BRFSS 2020 response of 'Yes' to the question, "Has a doctor, nurse, or health professional told you that you currently have asthma? (Weighted Age-Adjusted Prevalence – By Household Income)

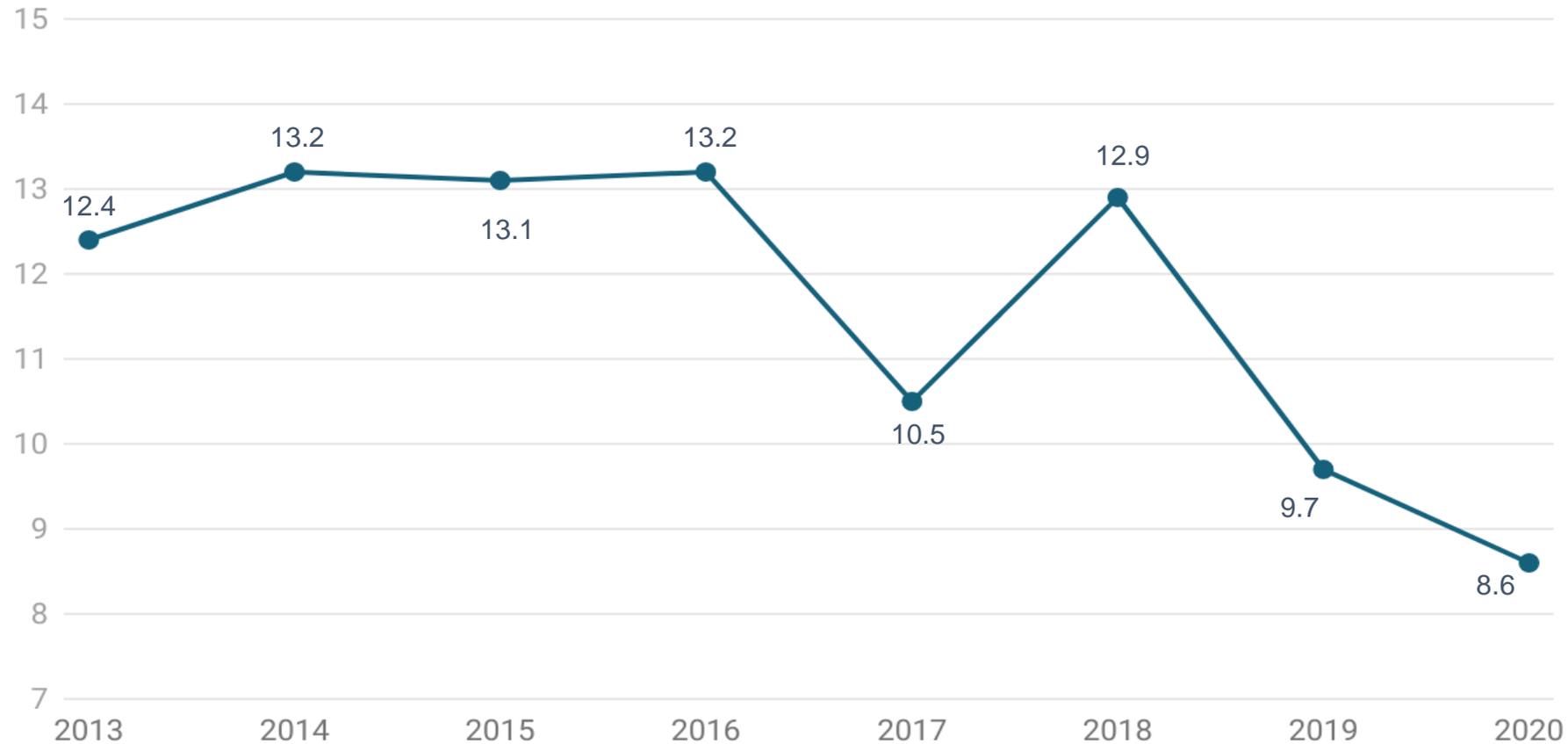
4 CDC and Indiana Department of Health Data Analysis Team [IDOH DAT]. (2021). Behavioral Risk Factor Surveillance System Prevalence Data, 2020. Visuals Created Using: [DataWrapper](#)



Child Asthma

- Approximately one in 16 (6.0%) Indiana children, ages 0 to 17 are currently diagnosed with asthma.
- Approximately one in 12 (8.6%) Indiana children, ages 0 to 17 have been told they have asthma at some point in their life.
- White children have a significantly lower prevalence rate than Black and Hispanic children.
- Asthma prevalence variation over the years can partially be explained by changes in sample size.

Prevalence of lifetime asthma among children [0-17 years old], Indiana, 2013-2020

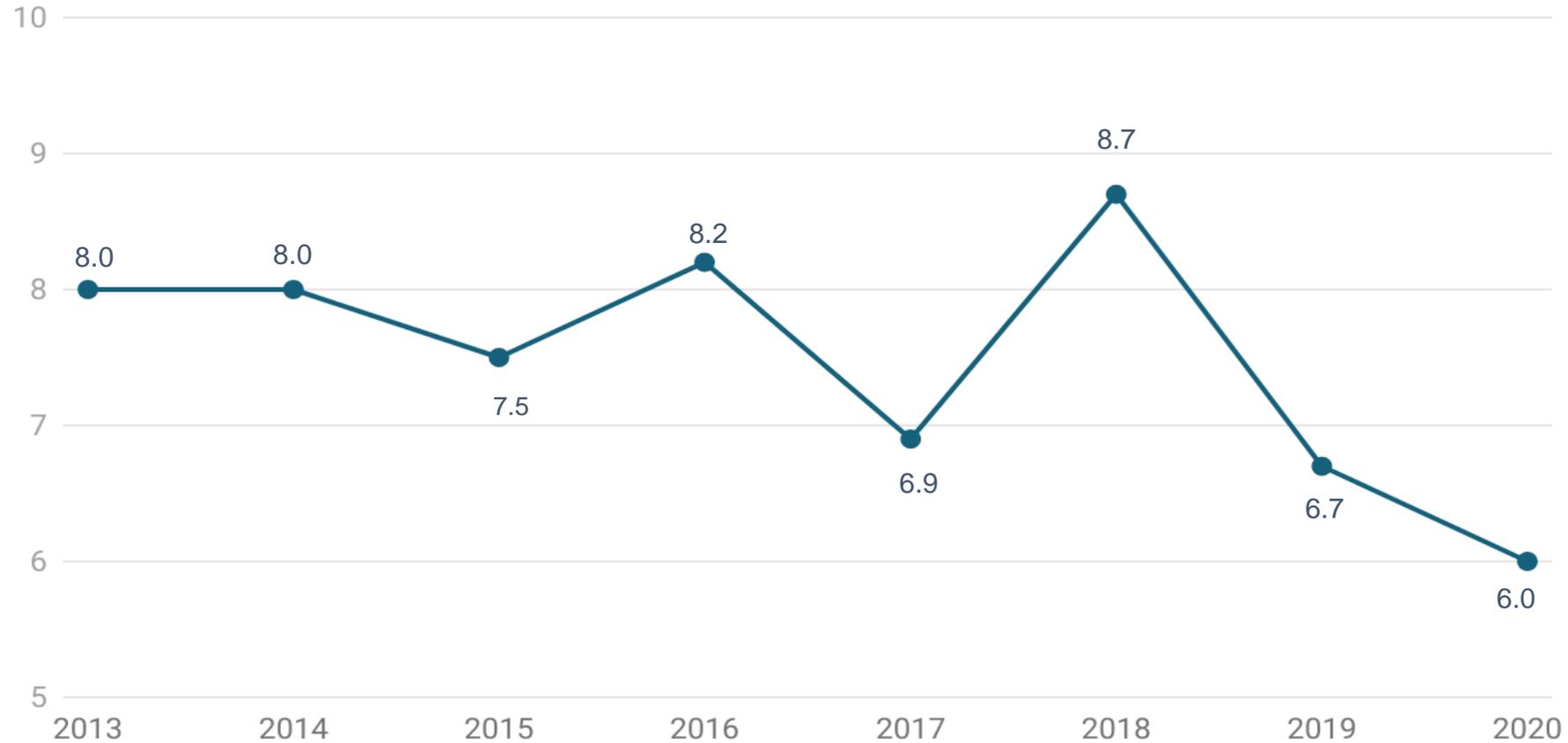


Sources: Lifetime Asthma from BRFSS 2013- 2020 response of 'Yes' to the question, "Has a doctor, nurse, or health professional told you that you ever had asthma? (Weighted Age-Adjusted Prevalence)

4 [CDC](#) and [Indiana Department of Health Data Analysis Team \[IDOH DAT\]](#). (2021). *Behavioral Risk Factor Surveillance System Prevalence Data, 2020*.

Visuals Created Using: [DataWrapper](#)

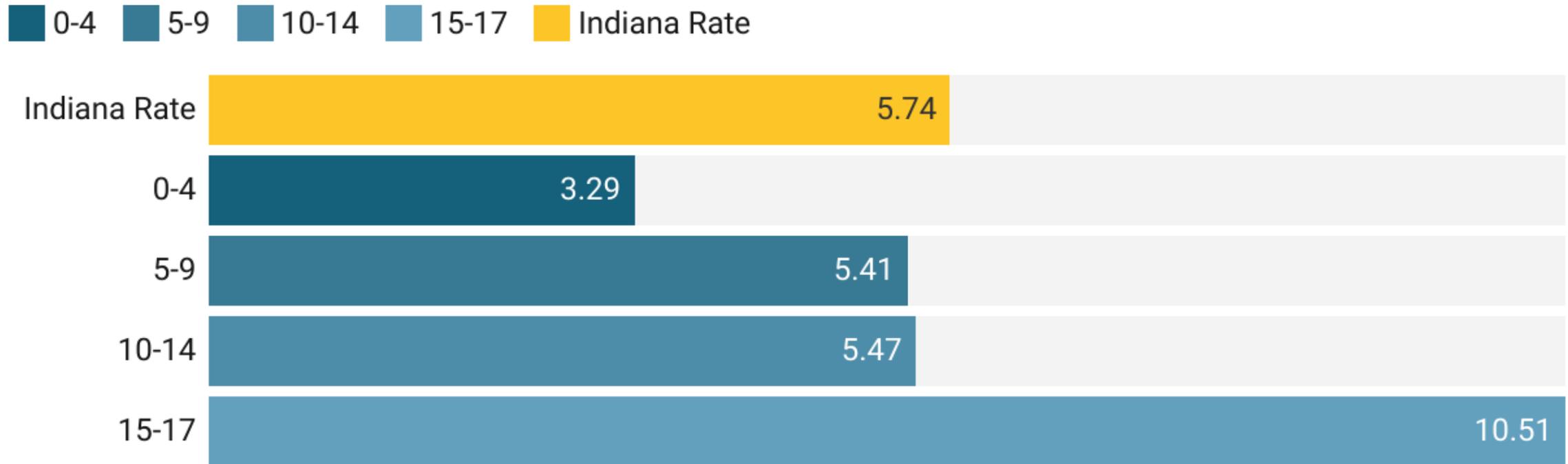
Prevalence of Current Asthma Among Children [0-17 years old], Indiana, 2013-2020



Sources: Current Asthma from BRFSS 2013 to 2020 response of 'Yes' to the question, "Has a doctor, nurse, or health professional told you that you currently have asthma? (Weighted Age-Adjusted Prevalence)

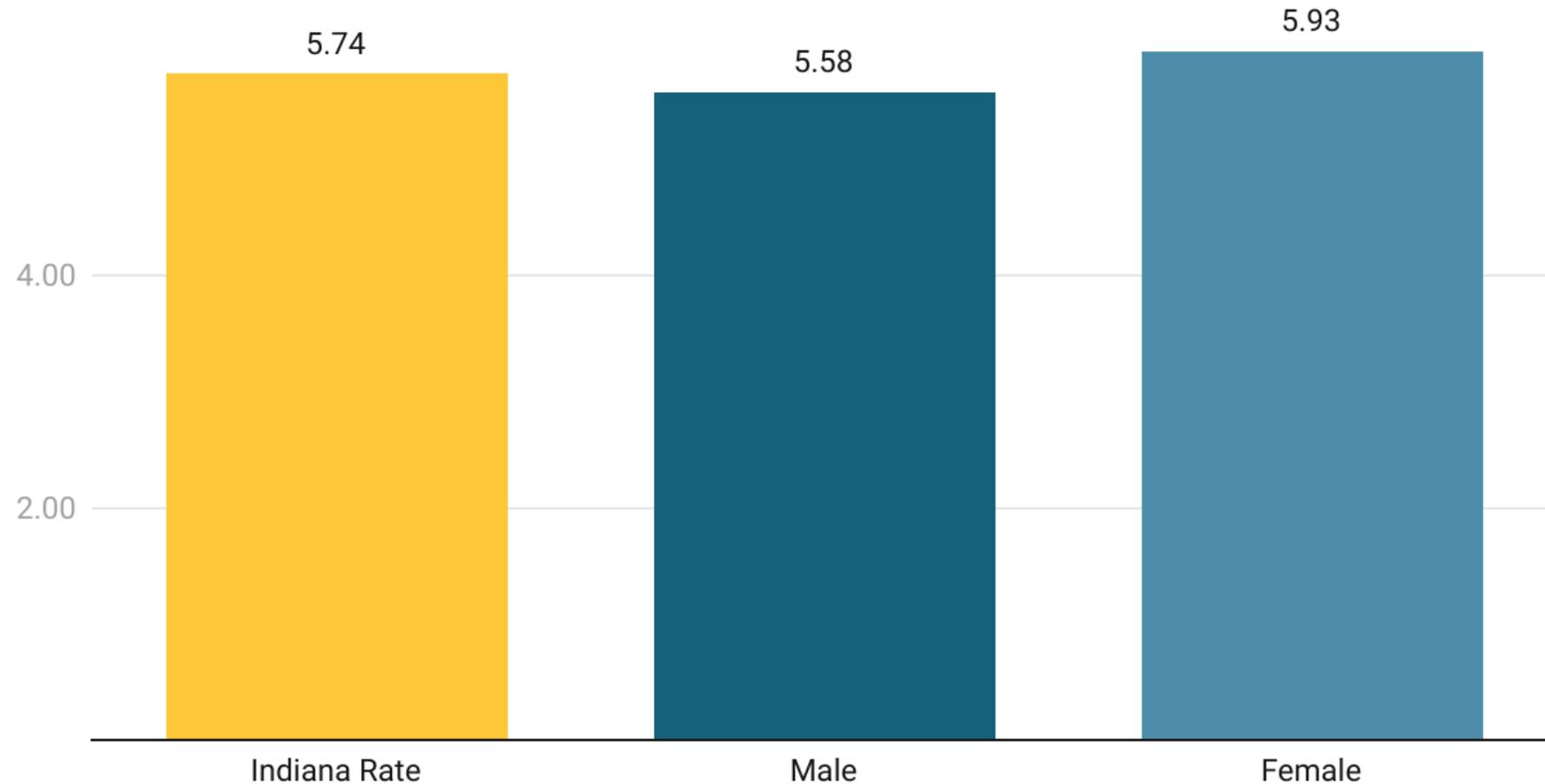
4 [CDC](#) and [Indiana Department of Health Data Analysis Team](#) [IDOH DAT]. (2021). *Behavioral Risk Factor Surveillance System Prevalence Data, 2020*. Visuals Created Using: [DataWrapper](#)

Prevalence of current asthma among children [0-17 years old] by age group, Indiana, 2020



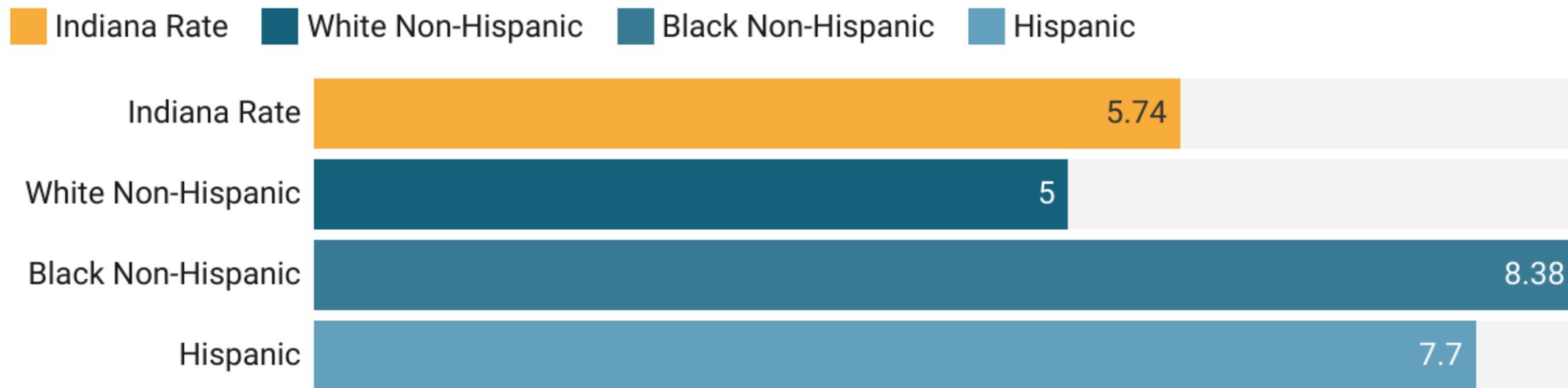
Source: Current Asthma from BRFSS 2020 response of 'Yes' to the question, "Has a doctor, nurse, or health professional told you that you currently have asthma? (Weighted Age-Adjusted Prevalence by Age Group)
4 CDC and [Indiana Department of Health Data Analysis Team \[IDOH DAT\]](#). (2021). *Behavioral Risk Factor Surveillance System Prevalence Data, 2020*.
Visuals Created Using: [DataWrapper](#)

Prevalence of current asthma among children [0-17 years old] by gender, Indiana, 2020



Sources: Current Asthma from BRFSS 2020 response of 'Yes' to the question, "Has a doctor, nurse, or health professional told you that you currently have asthma? (Weighted Age-Adjusted Prevalence by Gender)
4 CDC and Indiana Department of Health Data Analysis Team [IDOH DAT]. (2021). *Behavioral Risk Factor Surveillance System Prevalence Data, 2020*.
Visuals Created Using: [DataWrapper](#)

Prevalence of current asthma among children [0-17 years old] by race and ethnicity, Indiana, 2020



Sources: Current Asthma from BRFSS 2020 response of 'Yes' to the question, "Has a doctor, nurse, or health professional told you that you currently have asthma? (Weighted Age-Adjusted Prevalence by Race and Ethnicity)

4 CDC and Indiana Department of Health Data Analysis Team [IDOH DAT]. (2021). Behavioral Risk Factor Surveillance System Prevalence Data, 2020.

Visuals Created Using: [DataWrapper](#)

Asthma Management and Education



Asthma self-management education among Hoosiers with current asthma (2018) – weighted

Has a doctor or other health professional EVER	Adults who Responded 'Yes'	Child with a 'Yes' Response
Taught how to recognize early signs or symptoms of an asthma episode?	71.83%	78.06%
Taught what to do during an asthma episode or attack?	78.65%	75.80%
Taught how to use a peak flow meter to adjust your daily medications?	47.58%	41.81%
Given you an Asthma Action Plan?	34.45%	57.27%
Have You....		
Ever taken a course or class on how to manage your asthma?	9.34%	24.06%



⁴ CDC and Indiana Department of Health Data Analysis Team (IDOH DAT). (2021). *Behavioral Risk Factor Surveillance System Prevalence Data, 2018*.

⁹ CDC. (2021) Behavioral Risk Factor Surveillance System Asthma Call-Back Survey, 2018.

Activity Limitations and Missed Work or School Days



Missed workdays and activity limitations among Hoosiers with current asthma (2018)

Have you...	Adults Who Responded 'Yes' ⁹	Child with a 'Yes' Response
Missed Days of Work or Usual Activities?	28.70%	28.97%
Activity Limitations?	50.70%	15.00%

Missed workdays and activity limitations among Hoosiers with current asthma (2018)

Activity Limitations and Missed Workdays	Adults Who Responded 'Yes' ⁹
During the past 30 days, would you say you limited your usual activities due to asthma?	37.79%
During the past 12 months, were you unable to carry out your usual activities because of your asthma?	20.94%
Asthma Caused or Made Worse By Current Job?	24.60%
Asthma Caused or Made Worse by Any Job?	65.20%
Reported Medical Diagnosis of Depression for Current and Former Asthma Status	47.60%



Source: ⁴ CDC and Indiana Department of Health Data Analysis Team [IDOH DAT]. (2021). Behavioral Risk Factor Surveillance System Prevalence Data, 2020. ⁹ CDC. (2021) Behavioral Risk Factor Surveillance System Asthma Call-Back Survey, 2018.

Home Environmental Changes



Home environmental changes made among Hoosiers with current asthma (2018)

Environment	Adults Who Responded 'Yes' ⁹	Child with a 'Yes' Response
Has a health professional ever advised you to change things in your home, school, or work to improve your asthma?	33.15%	11.99%
Is an exhaust fan that vents to the outside used regularly when cooking in your home?	55.71%	58.51%
Is gas used for cooking?	45.44%	26.74%
In your bathroom, do you regularly use an exhaust fan that vents to the outside?	65.02%	79.29%

Sources: 4 [CDC](#) and [Indiana Department of Health Data Analysis Team \[IDOH DAT\]](#). (2021). *Behavioral Risk Factor Surveillance System Prevalence Data, 2020*.

9 [CDC](#). (2021) Behavioral Risk Factor Surveillance System Asthma Call-Back Survey, 2018.



Home environmental changes made among Hoosiers with current asthma (2018)

Environment	Adults Who Responded 'Yes' ⁹	Child with a 'Yes' Response
Do you use a mattress cover that is made especially for controlling dust mites?	38.92%	43.94%
Do you use a pillow cover that is made especially for controlling dust mites?	30.64%	32.89%
Do you have carpeting or rugs in your bedroom?	58.95%	75.08%
Is an air cleaner or purifier regularly used inside your home?	31.06%	25.03%
Is a dehumidifier regularly used to reduce moisture inside your home?	28.92%	39.60%



⁴ CDC and Indiana Department of Health Data Analysis Team [IDOH DAT]. (2021). *Behavioral Risk Factor Surveillance System Prevalence Data, 2020*.

⁹ CDC. (2021) Behavioral Risk Factor Surveillance System Asthma Call-Back Survey, 2018.

Home Environmental Factors



Home environmental factors among Hoosiers with current asthma (2018)

Environment	Adults Who Responded 'Yes' ⁹	Child with a 'Yes' Response
In the past 30 days, has anyone seen a cockroach inside your home?	4.59%	*
In the past 30 days, has anyone seen mice or rats inside your home?	16.42%	3.66%
In the past 30 days, has anyone seen or smelled mold or a musty odor inside your home?	8.2%	16.15%
Does your household have pets such as dogs, cats, hamsters, birds, or other feathered or furry pets that spend time indoors?	66.62%	63.89%
Are pets allowed in your bedroom?	50.42%	34.53%
In the past week, has anyone smoked inside your home?	26.85%	11.08%



⁴ CDC and Indiana Department of Health Data Analysis Team [IDOH DAT]. (2021). Behavioral Risk Factor Surveillance System Prevalence Data, 2018.

⁹ CDC. (2021) Behavioral Risk Factor Surveillance System Asthma Call-Back Survey, 2018. * Not enough data

Cost Barriers



Cost barriers

Was there a time in the past 12 months when you...	Adults Who Responded 'Yes' ⁹	Child with a 'Yes' Response
Needed to see your primary care doctor for your asthma but could not because of the cost?	7.54%	0.85%
Needed to buy medication for your asthma but could not because of the cost?	11.83%	2.17%
Were referred to a specialist for asthma care but could not go because of the cost?	6.81%	*



⁴ CDC and Indiana Department of Health Data Analysis Team (IDOH DAT). (2021). *Behavioral Risk Factor Surveillance System Prevalence Data, 2018*.

⁹ CDC. (2021) Behavioral Risk Factor Surveillance System Asthma Call-Back Survey, 2018.

* Not enough data

Work Environment



Asthma symptoms and aggravation from work environment

Are/Were there	Adults Who Responded 'Yes' ⁹
Are your asthma symptoms MADE WORSE by things like chemicals, smoke, dust, or mold in your CURRENT job?	18.36%
Was your asthma first CAUSED by things like chemicals, smoke, dust, or mold in your CURRENT job?	5.21%
Were your asthma symptoms MADE WORSE by things like chemicals, smoke, dust, or mold, in any PREVIOUS job you ever had?	39.51%
Was your asthma first CAUSED by things like chemicals, smoke, dust, or mold in any PREVIOUS job you ever had?	14.90%

Asthma symptoms and aggravation from work environment

Are/Were there	Adults Who Responded 'Yes' ⁹
Did you ever lose or quit a job because things in the workplace, like chemicals, smoke, dust, or mold, caused your asthma or made your asthma symptoms worse?	14.03%
Did you and a doctor or other health professional ever DISCUSS whether your asthma could have been caused by, or your symptoms made worse by, any job you ever had?	17.64%
Have you ever been TOLD BY a doctor or other health professional that your asthma was caused by, or your symptoms made worse by, any job you ever had?	15.50%

Asthma and Other Respiratory Diseases



Asthma and other respiratory diseases

Have you ever been told by a doctor or health professional that you have...	Adults Who Responded 'Yes' ⁹
Chronic Obstructive Pulmonary Disease (COPD)	21.07%
Emphysema	4.30%
Chronic bronchitis	24.09



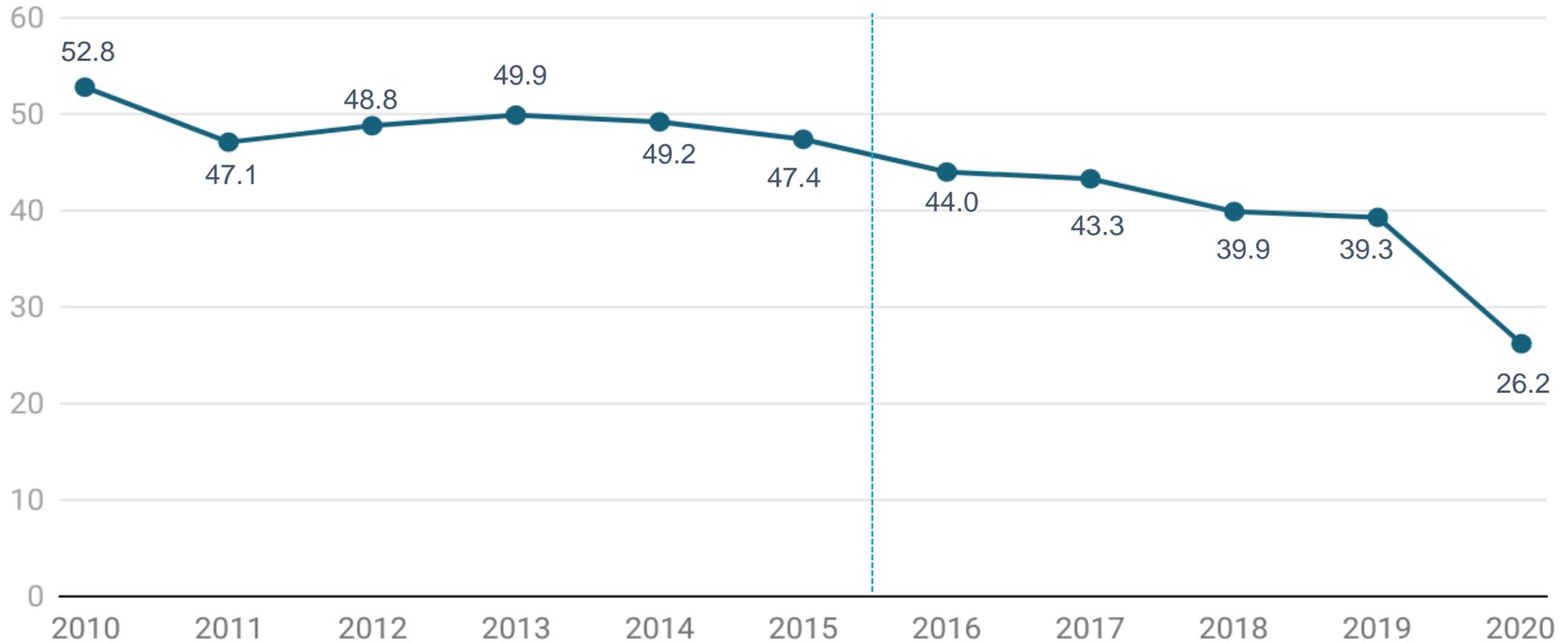
⁴ CDC and Indiana Department of Health Data Analysis Team (IDOH DAT). (2021). *Behavioral Risk Factor Surveillance System Prevalence Data, 2020*.

⁹ CDC. (2021) Behavioral Risk Factor Surveillance System Asthma Call-Back Survey, 2018.

Asthma-Specific Emergency Department Visits



Asthma* ED visit rates**, Indiana, 2010-2020†



**Indiana
Department
of
Health**

* Primary Diagnosis of Asthma

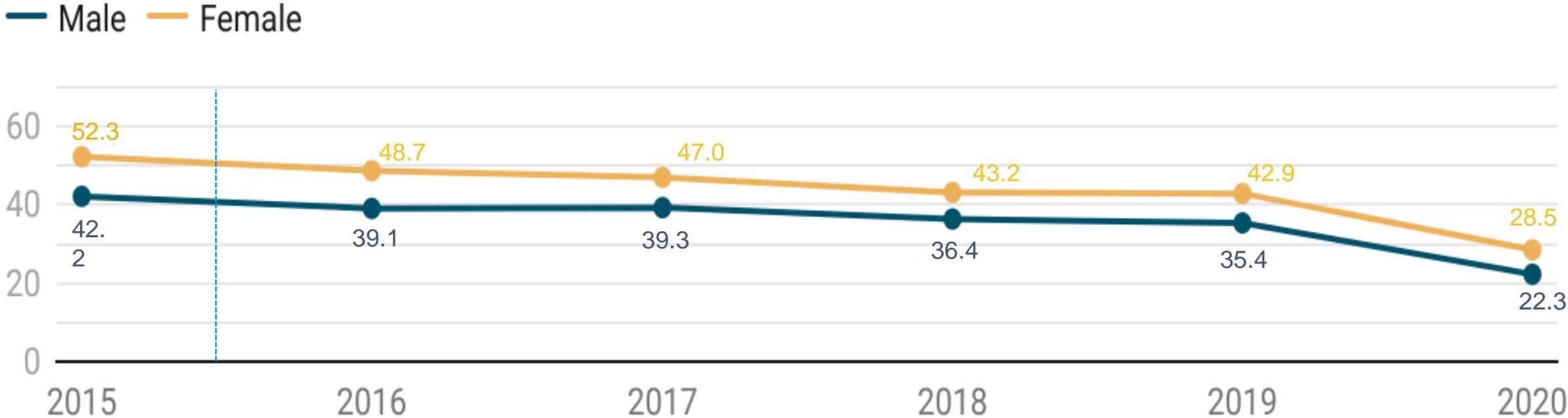
** Age-Adjusted to the U.S. Standard Population 2000, Rates per 10,000 Population

† In October 2015, Hospitals transitioned from ICD-9 to ICD-10, therefore, estimates made in 2016 or later should not be compared to earlier rate estimates.

9 | [Indiana Department of Health Data Analysis Team \(IDOH DAT\)](#). (2021). Indiana Hospital Discharge Data, 2020.

Visuals Created Using: [DataWrapper](#)

Asthma* ED visit rates** by gender, Indiana, 2015-2020

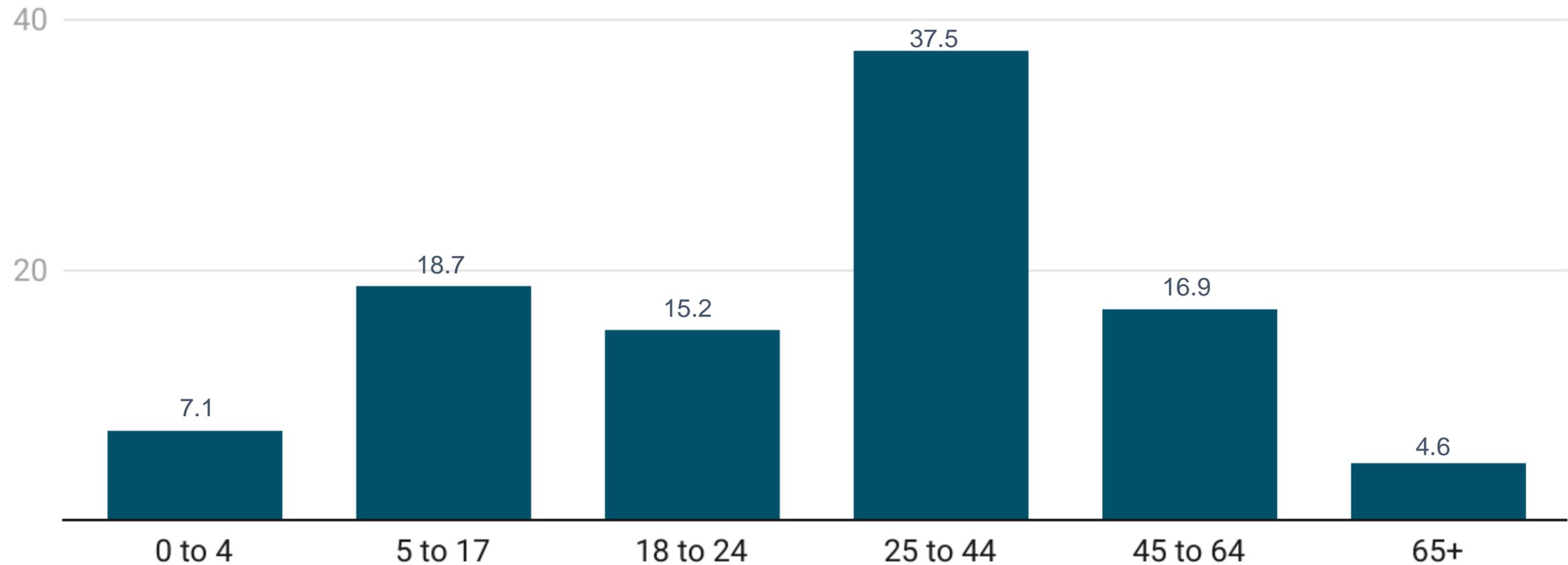


* Primary Diagnosis of Asthma
** Age-Adjusted to the U.S. Standard Population 2000, Rates per 10,000 Population

† In October 2015, Hospitals transitioned from ICD-9 to ICD-10, therefore, estimates made in 2016 or later should not be compared to earlier rate estimates.
9 | [Indiana Department of Health Data Analysis Team \[IDOH DAT\]](#). (2021). Indiana Hospital Discharge Data, 2020.
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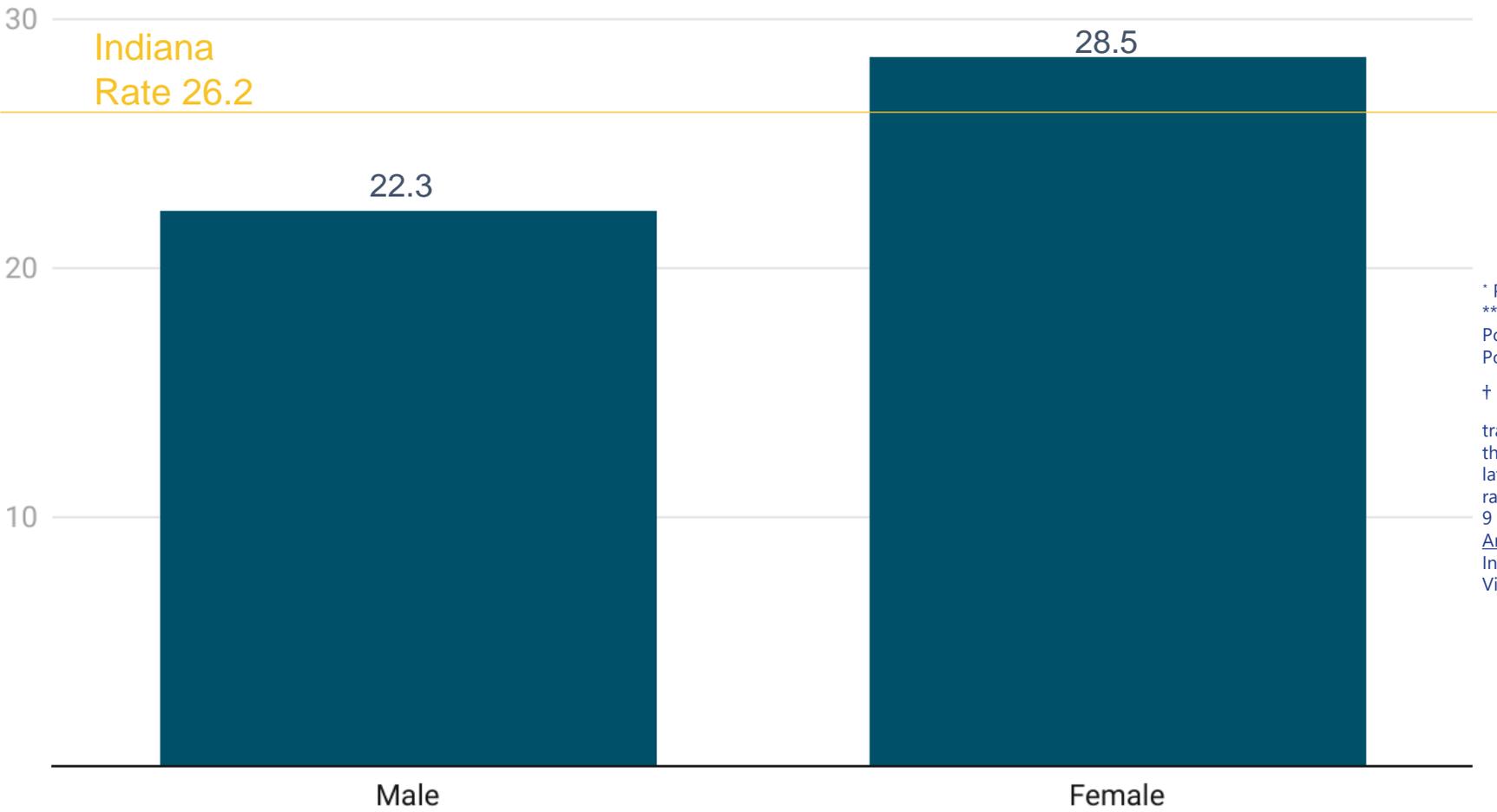
Age distribution of asthma* ED visits, Indiana, 2020 (16,176 total ED visits)



* Primary Diagnosis of Asthma
** Age-Adjusted to the U.S. Standard Population 2000, Rates per 10,000 Population
† In October 2015, Hospitals transitioned from ICD-9 to ICD-10, therefore, estimates made in 2016 or later should not be compared to earlier rate estimates.
9 | [Indiana Department of Health Data Analysis Team \[IDOH DAT\]. \(2021\). Indiana Hospital Discharge Data, 2020.](#)
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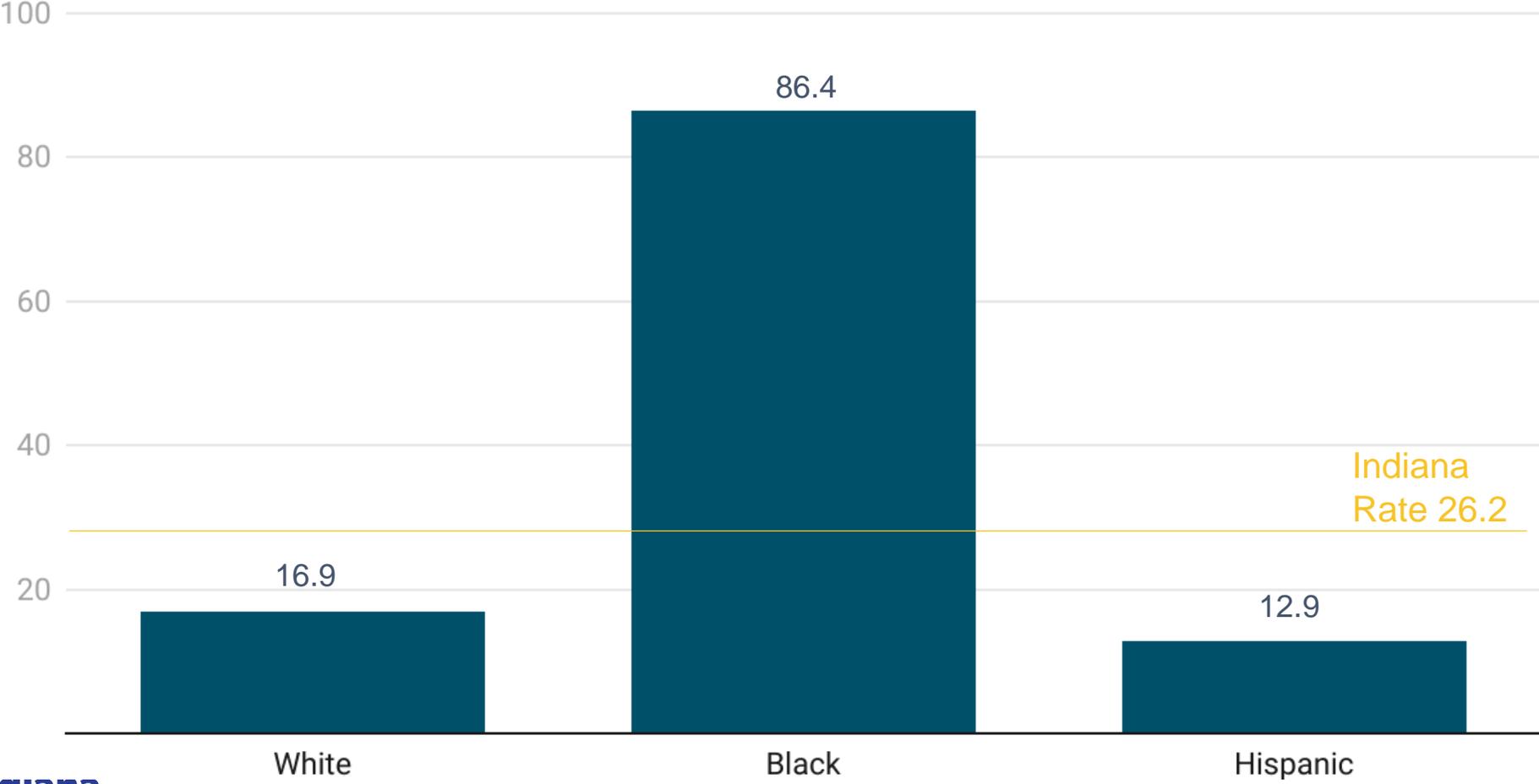


Asthma ED visit rates** by gender, Indiana, 2020



* Primary Diagnosis of Asthma
** Age-Adjusted to the U.S. Standard Population 2000, Rates per 10,000 Population
† In October 2015, Hospitals transitioned from ICD-9 to ICD-10, therefore, estimates made in 2016 or later should not be compared to earlier rate estimates.
9 | [Indiana Department of Health Data Analysis Team \[IDOH DAT\]. \(2021\).](#)
[Indiana Hospital Discharge Data, 2020.](#)
Visuals Created Using: [DataWrapper](#)

Asthma* ED Visit Rates** by Race/Ethnicity, Indiana, 2020

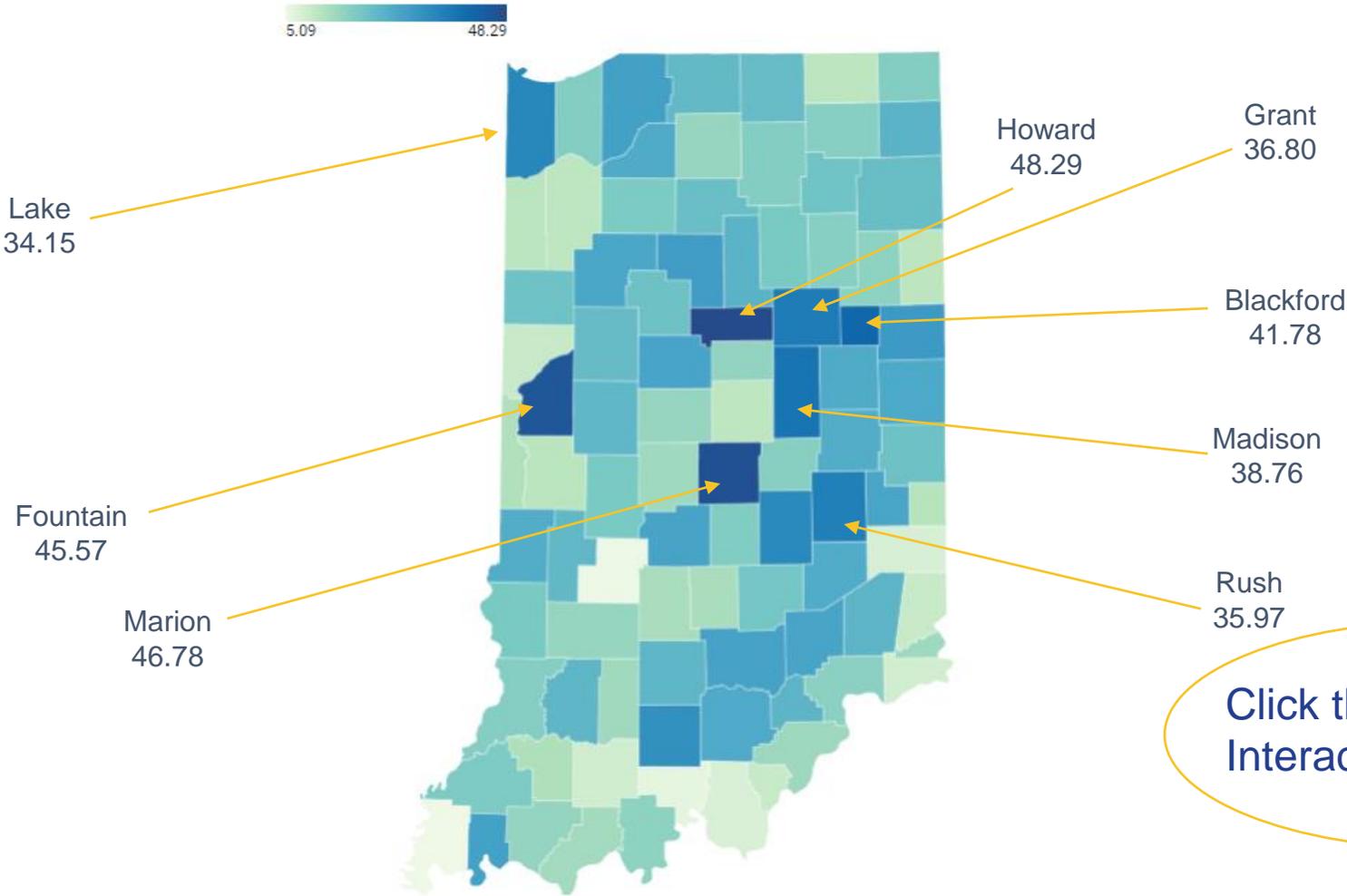


* Primary Diagnosis of Asthma
** Age-Adjusted to the U.S. Standard Population 2000, Rates per 10,000 Population

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9 | [Indiana Department of Health Data Analysis Team \[IDOH DAT\]. \(2021\). Indiana Hospital Discharge Data, 2020.](#)
Visuals Created Using: [DataWrapper](#)



Asthma ED visit rates by county, Indiana, 2020



* Primary Diagnosis of Asthma
 ** Age-Adjusted to the U.S. Standard Population 2000, Rates per 10,000 Population

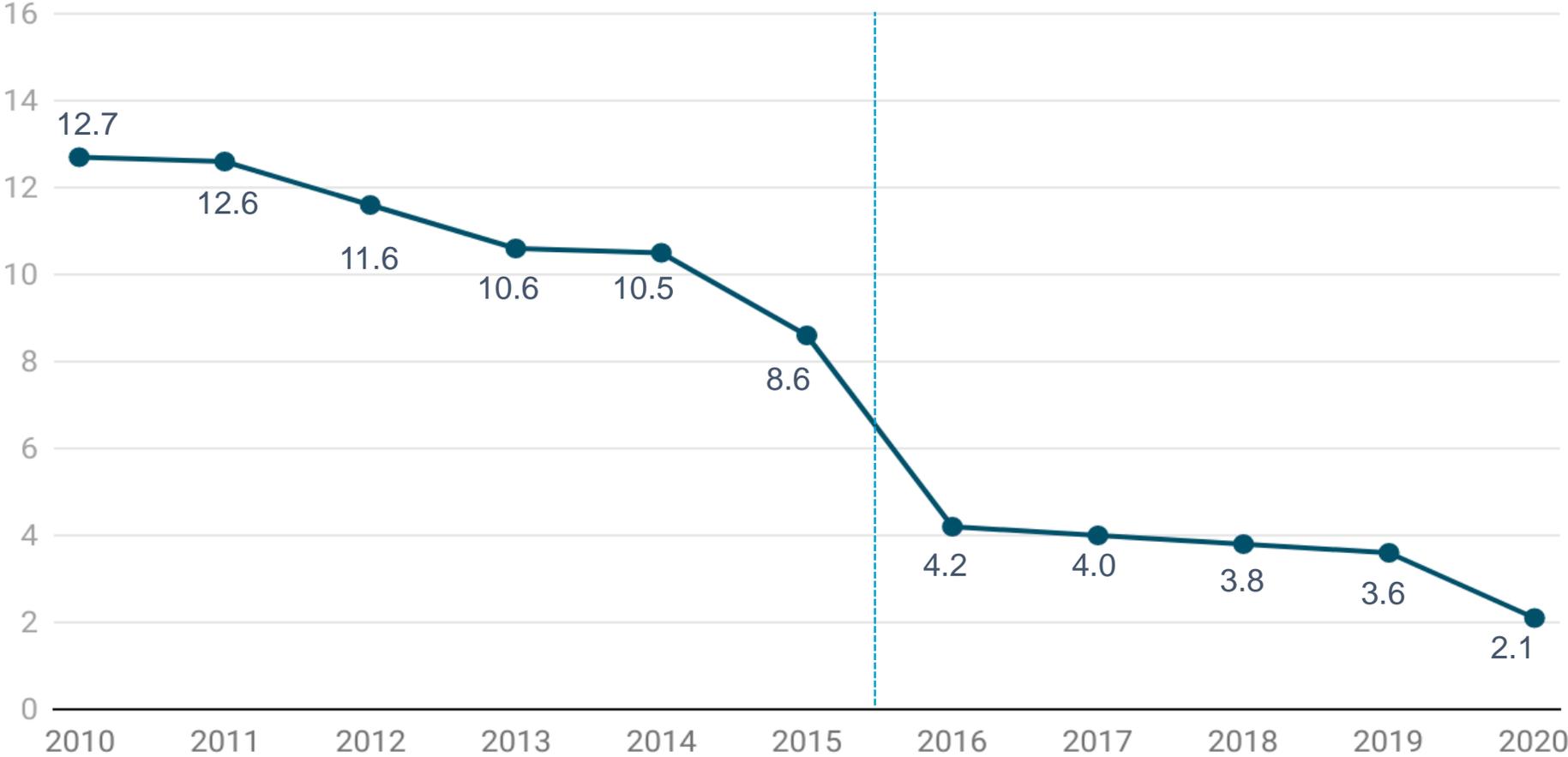
† In October 2015, Hospitals transitioned from ICD-9 to ICD-10, therefore, estimates made in 2016 or later should not be compared to earlier rate estimates.
 9 | [Indiana Department of Health Data Analysis Team](#) [IDOH DAT]. (2021). Indiana Hospital Discharge Data, 2020. Visuals Created Using: [DataWrapper](#)

Click the Map for Interactive [Information!](#)

Asthma-Specific Inpatient Hospitalizations



Asthma* inpatient hospitalization rates**, Indiana, 2010-2020

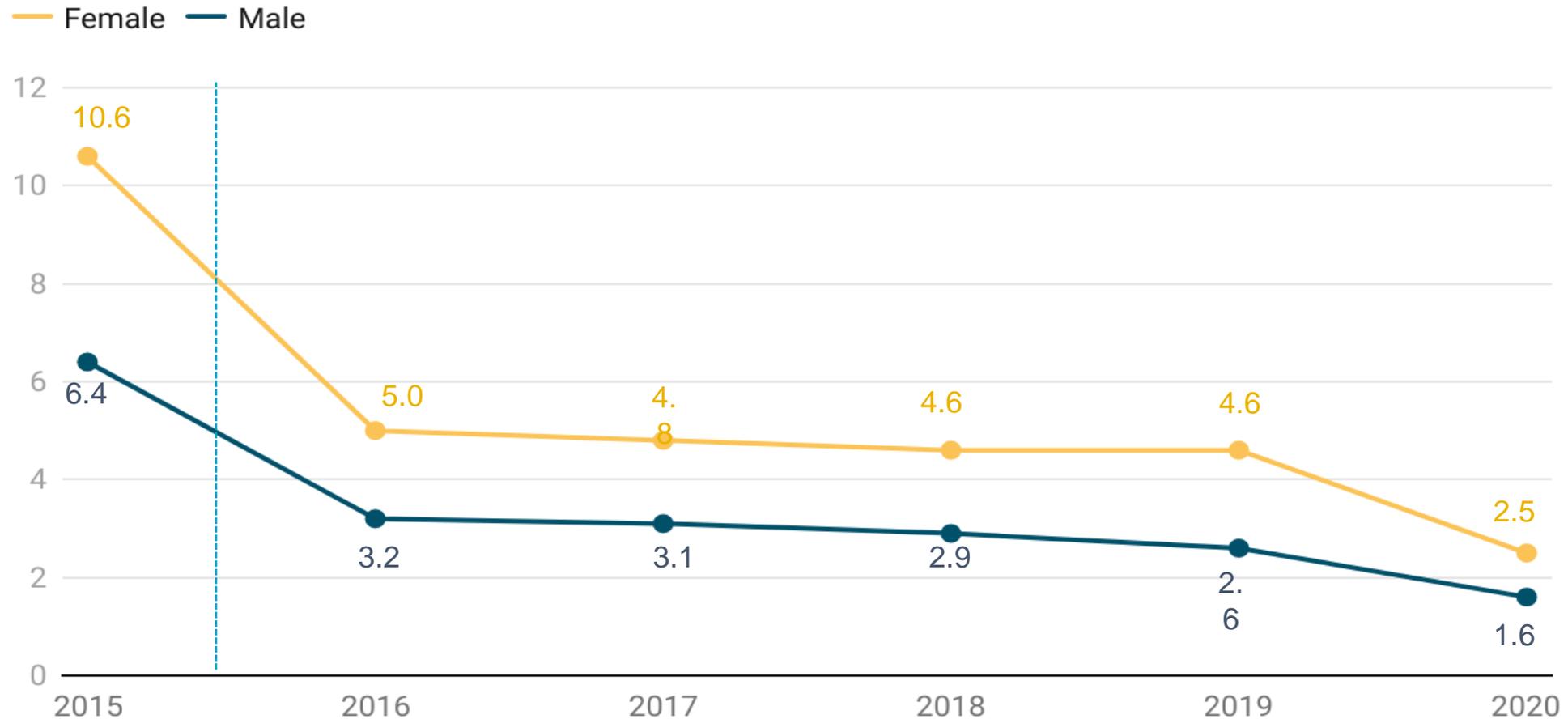


* Primary Diagnosis of Asthma
** Age-Adjusted to the U.S. Standard Population 2000, Rates per 10,000 Population

† In October 2015, Hospitals transitioned from ICD-9 to ICD-10, therefore, estimates made in 2016 or later should not be compared to earlier rate estimates.
9 | [Indiana Department of Health Data Analysis Team \(IDOH DAT\)](#). (2021). Indiana Hospital Discharge Data, 2020. Visuals Created Using: [DataWrapper](#)



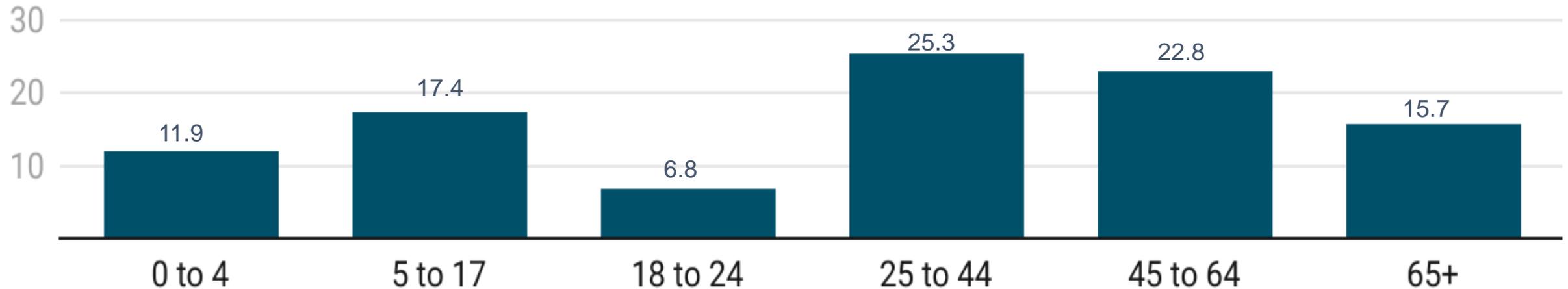
Asthma* hospitalization rates** by gender, Indiana, 2015-2020



* Primary Diagnosis of Asthma
** Age-Adjusted to the U.S. Standard Population 2000, Rates per 10,000 Population

† In October 2015, Hospitals transitioned from ICD-9 to ICD-10, therefore, estimates made in 2016 or later should not be compared to earlier rate estimates.
9 | Indiana Department of Health Data Analysis Team [IDOH DAT]. (2021). Indiana Hospital Discharge Data, 2020. Visuals Created Using: [DataWrapper](#)

Age distribution of asthma* inpatient hospitalizations, Indiana, 2020 (1,373 total hospitalizations)



* Primary Diagnosis of Asthma

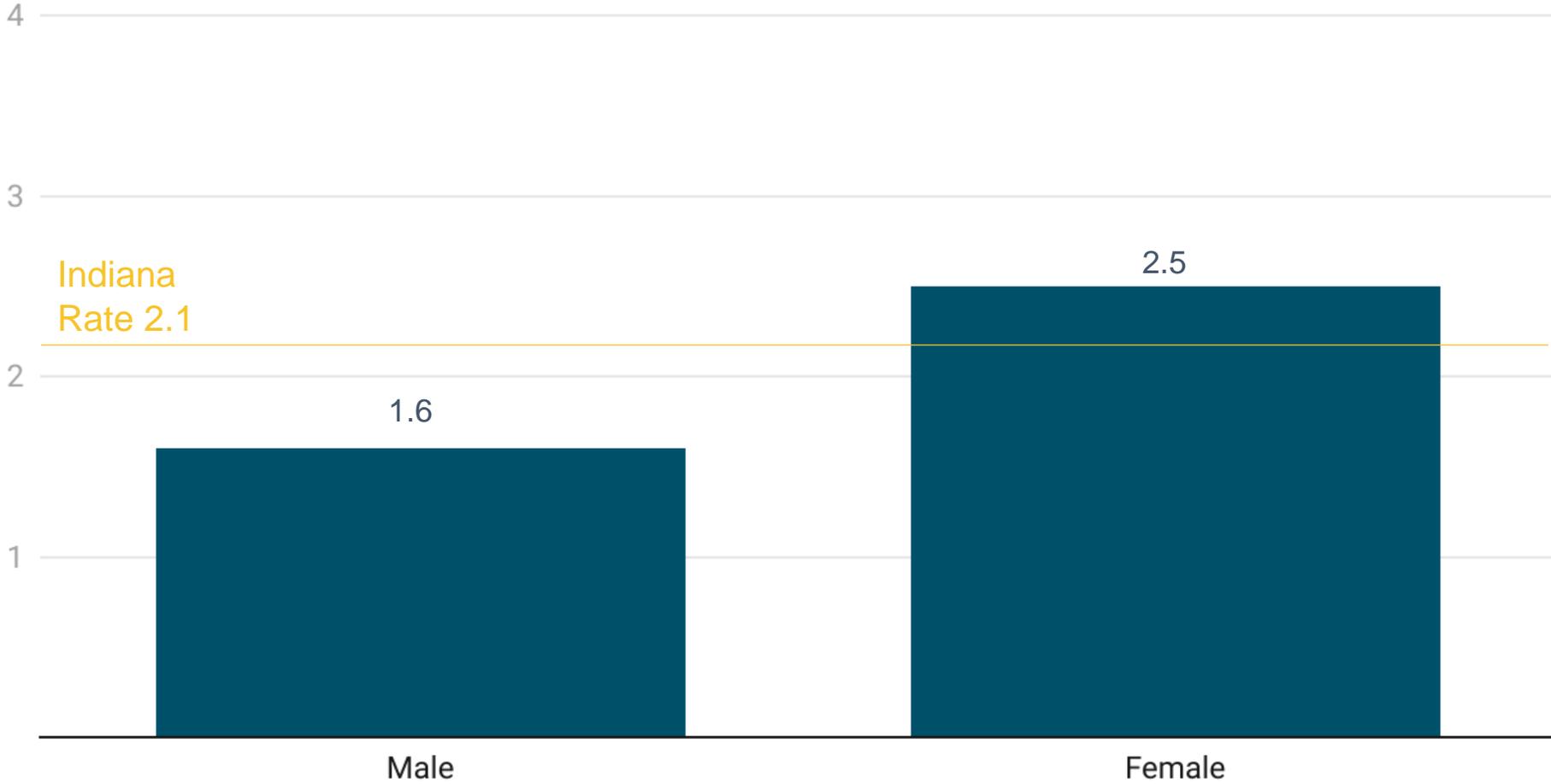
** Age-Adjusted to the U.S. Standard Population 2000, Rates per 10,000 Population

† In October 2015, Hospitals transitioned from ICD-9 to ICD-10, therefore, estimates made in 2016 or later should not be compared to earlier rate estimates.

9 | Indiana Department of Health Data Analysis Team [IDOH DAT]. (2021). Indiana Hospital Discharge Data, 2020.

Visuals Created Using: [DataWrapper](#)

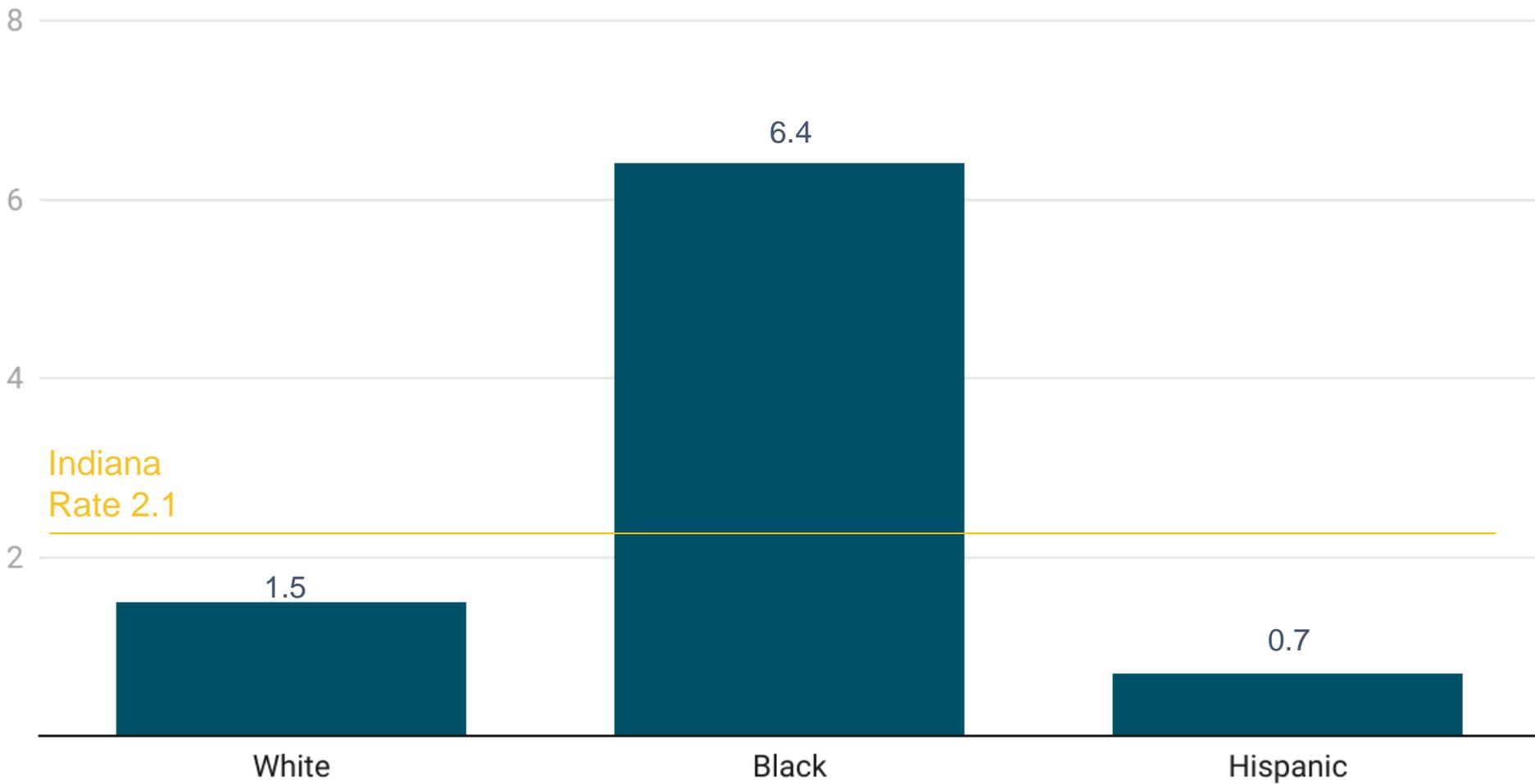
Asthma hospitalization rates by gender, Indiana, 2020



* Primary Diagnosis of Asthma
** Age-Adjusted to the U.S. Standard Population 2000, Rates per 10,000 Population

† In October 2015, Hospitals transitioned from ICD-9 to ICD-10, therefore, estimates made in 2016 or later should not be compared to earlier rate estimates. 9 | [Indiana Department of Health Data Analysis Team \[IDOH DAT\]. \(2021\). Indiana Hospital Discharge Data, 2020. Visuals Created Using: \[DataWrapper\]\(#\)](#)

Asthma hospitalization rates by race/ethnicity, Indiana, 2020



* Primary Diagnosis of Asthma
** Age-Adjusted to the U.S. Standard Population 2000, Rates per 10,000 Population

† In October 2015, Hospitals transitioned from ICD-9 to ICD-10, therefore, estimates made in 2016 or later should not be compared to earlier rate estimates. 9 | [Indiana Department of Health Data Analysis Team](#) (IDOH DAT). (2021). Indiana Hospital Discharge Data, 2020. Visuals Created Using: [DataWrapper](#)

Asthma hospitalization rates by county, Indiana, 2020

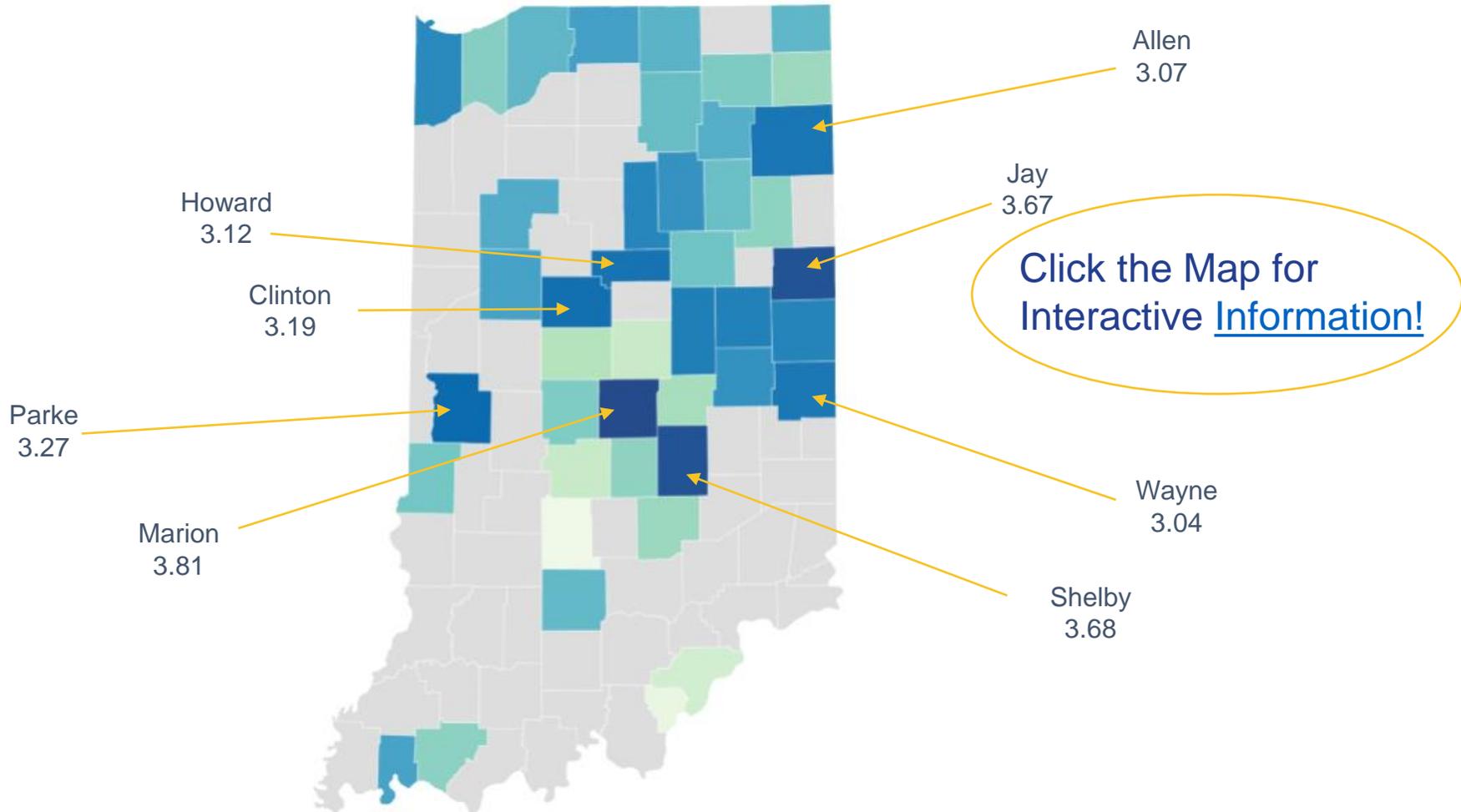


* Primary Diagnosis of Asthma
** Age-Adjusted to the U.S. Standard Population 2000, Rates per 10,000 Population

† In October 2015, Hospitals transitioned from ICD-9 to ICD-10, therefore, estimates made in 2016 or later should not be compared to earlier rate estimates.

9 | Indiana Department of Health Data Analysis Team [IDOH DAT]. (2021). Indiana Hospital Discharge Data, 2020.

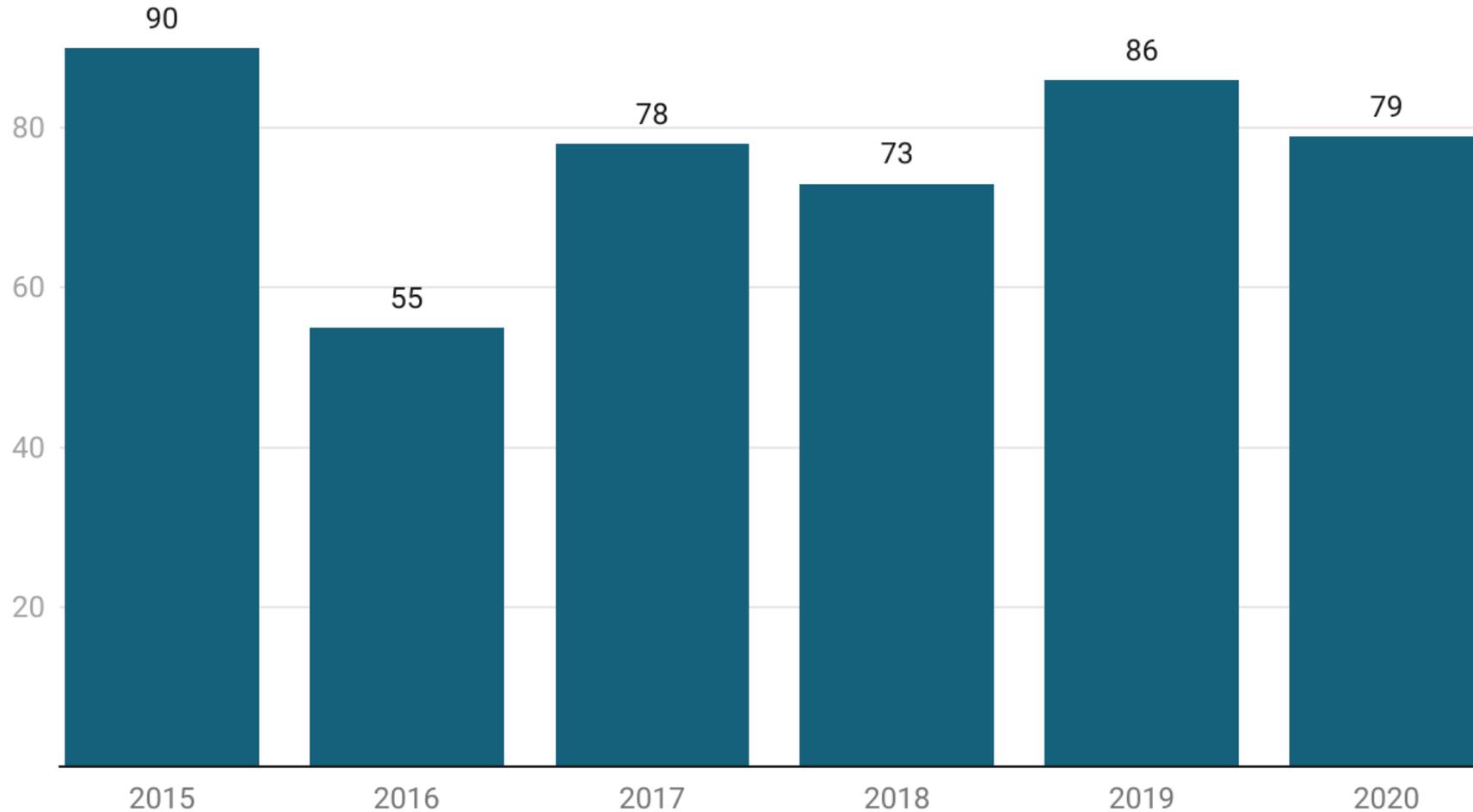
Visuals Created Using: [DataWrapper](#)



Asthma Mortality

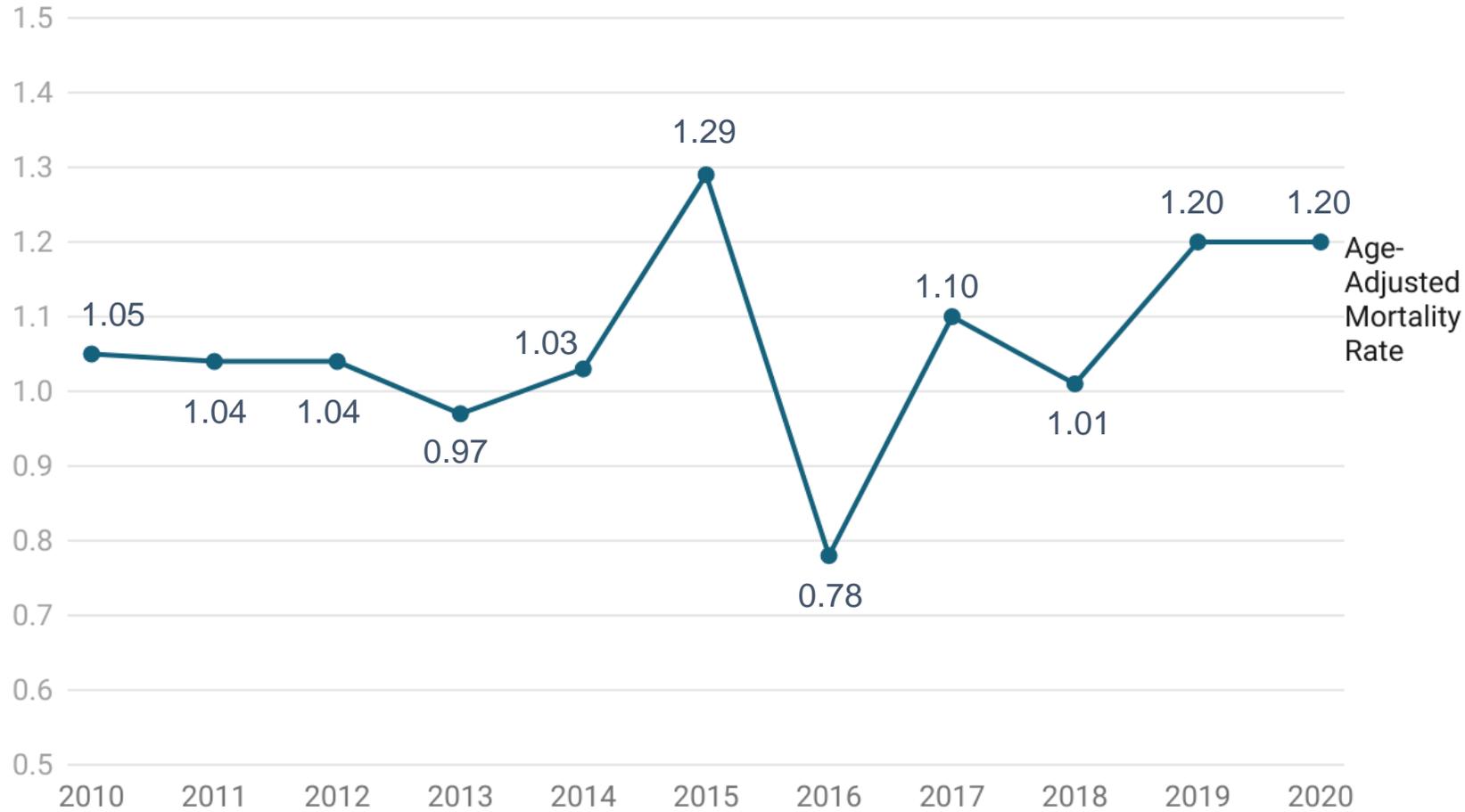


Number of asthma deaths, Indiana, 2010-2020



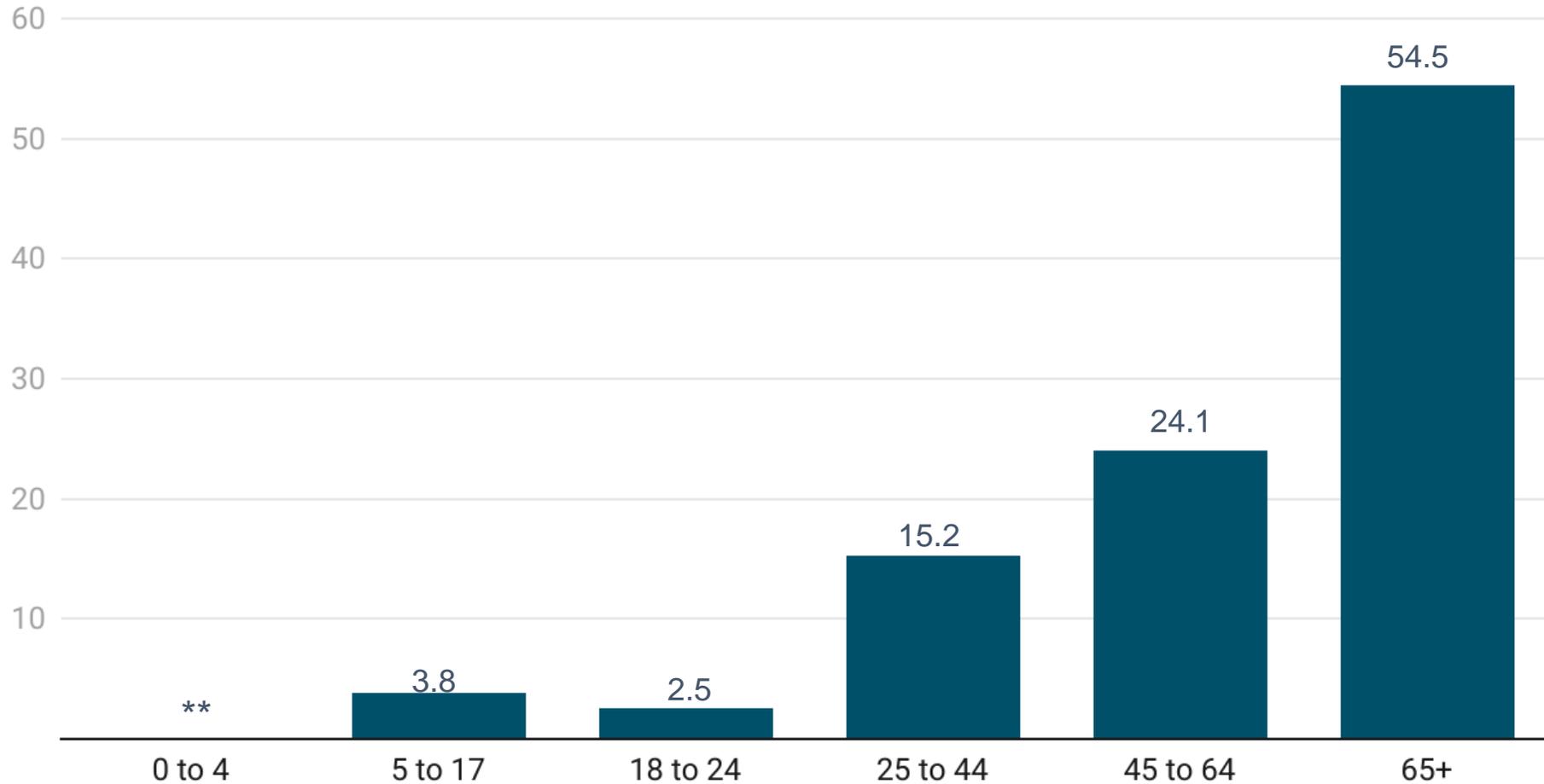
10 | [CDC](#) and [Indiana Department of Health Data Analysis Team](#) [IDOH DAT]. (2021). Mortality Death Report, 2010-2020. Visuals Created Using: [DataWrapper](#)

Age-adjusted asthma mortality rates, Indiana, 2010-2020



10 | [CDC](#) and [Indiana Department of Health Data Analysis Team](#) [IDOH DAT]. (2021). Mortality Death Report, 2010-2020. Visuals Created Using: [DataWrapper](#)

Age distribution of asthma deaths, Indiana, 2020



10 | [CDC](#) and [Indiana Department of Health Data Analysis Team](#) [IDOH DAT]. (2021). Mortality Death Report, 2020. Visuals Created Using: [DataWrapper](#)

2020 in summary

Statistic Description	2020
Adult lifetime asthma prevalence	14.20
Adult current asthma prevalence	9.60
Child lifetime asthma prevalence	8.60
Child current asthma prevalence	5.74
Emergency department visits (with a primary diagnosis of asthma)	26.2 per 10,000 population
Inpatient hospitalizations (with a primary diagnosis of asthma)	2.1 per 10,000 population
Mortalities (due to asthma)	79

Website: [Health: CDPC: Asthma Home \(in.gov\)](https://www.health.in.gov/cdpc/asthma)

Contact information:

If you would like to extract slides from this presentation, please use proper citations given on the slides and reference the Indiana Department of Health Chronic Respiratory Disease Section. For technical assistance, please contact at AbBrooks@health.in.gov



Resources

- 1 | Klein RJ, Schoenborn CA. Age adjustment using the 2000 projected U.S. population. *Healthy People Statistical Notes*, no. 20. Hyattsville, Maryland: National Center for Health Statistics. January 2001. <https://www.cdc.gov/nchs/data/statnt/statnt20.pdf>
- 2 | Centers for Disease Control and Prevention. (2016, July 14). *Asthma control*. Centers for Disease Control and Prevention. Retrieved November 23, 2021, from https://www.cdc.gov/asthma/asthma_disparities/asthma_control.htm.
- 3 | Centers for Disease Control and Prevention. (2017, January 31). *Health disparities*. Centers for Disease Control and Prevention. Retrieved November 23, 2021, from <https://www.cdc.gov/aging/disparities/index.htm>.
- 4 | CDC and Indiana Department of Health Data Analysis Team [IDOH DAT]. (2021). *Behavioral Risk Factor Surveillance System Prevalence Data, 2020*.
- 5 | World Health Organization. (2021, May 3). *Asthma*. World Health Organization. Retrieved November 23, 2021, from <https://www.who.int/news-room/fact-sheets/detail/asthma>.

Resources

- 6 | Centers for Disease Control and Prevention. (2021, September 16). *Asthma*. Centers for Disease Control and Prevention. Retrieved November 23, 2021, from <https://www.cdc.gov/asthma/default.htm>.
- 7 | Asthma and Allergy Foundation of America, (2020). [Asthma Disparities in America: A Roadmap to Reducing Burden on Racial and Ethnic Minorities]. Retrieved from aafa.org/asthmadisparities
- 8 | Health Resources and Services Administration HRSA. (2019, August 13). *Health literacy*. Official web site of the U.S. Health Resources & Services Administration. Retrieved November 23, 2021, from <https://www.hrsa.gov/about/organization/bureaus/ohe/health-literacy/index.html>.
- 9 | [Indiana Department of Health Data Analysis Team \[IDOH DAT\]](#). (2021). Indiana Hospital Discharge Data, 2020.
- 10 | [CDC](#) and [Indiana Department of Health Data Analysis Team \[IDOH DAT\]](#). (2021). Mortality Death Report, 2020.